AmpliPhi Biosciences Corp
Form 424B5
March 20, 2018

Filed Pursuant to Rule 424(b)(5)

File No. 333-210974

PROSPECTUS SUPPLEMENT

(To Prospectus dated May 13, 2016)

2,743,640 Shares

Common Stock

We are offering 2,743,640 shares of our common stock pursuant to this prospectus supplement and the accompanying prospectus. The price for each share of common stock being sold pursuant to this prospectus supplement is $1.10.

Our common stock is traded on the NYSE American under the symbol “APHB.” On March 19, 2018, the last reported sale price of our common stock as reported on the NYSE American was $1.54 per share.

We have retained H.C. Wainwright & Co., LLC to act as our exclusive placement agent (“placement agent”) in connection with the shares of common stock offered by this prospectus supplement. The placement agent has agreed to use its reasonable best efforts to arrange for the sale of the common stock offered by this prospectus supplement. The placement agent is not purchasing or selling any of the shares of common stock we are offering and the placement agent is not required to arrange the purchase or sale of any specific number of shares or dollar amount. We have agreed to pay to the placement agent the placement agent fees set forth in the table below, which assumes that we sell all of the common stock offered by this prospectus supplement. See “Plan of Distribution” on page S-10 of this prospectus supplement for more information regarding these arrangements.

As of the date of this prospectus supplement, the aggregate market value of our outstanding common stock held by non-affiliates, or public float, was approximately $7.2 million, based on 13,489,503 shares of outstanding common stock held by non-affiliates as of the date of this prospectus supplement, at a price of $1.60 per share, which was the last reported sale price of our common stock on the NYSE American on March 9, 2018. Pursuant to General

Instruction I.B.6 of Form S-3, in no event will we sell securities registered on the registration statement of which this prospectus supplement is a part in a primary offering with a value exceeding more than one-third of our public float in any 12-month period so long as our public float remains below $75.0 million. Other than the securities offered by this prospectus supplement, we have sold $4.0 million of shares of our common stock pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus supplement.

Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page S-5 of this prospectus supplement.

	Per Share	Total
Offering price	$1.100	$3,018,004.00
Placement agent's fees[1]	$0.066	$181,080.24
Proceeds, before expenses, to us	$1.034	$2,836,923.76

(1) We have also agreed to reimburse the placement agent for certain offering-related expenses. See "Plan of Distribution."

We have agreed to pay the placement agent a placement agent fee in an amount equal to 6.0% of the aggregate gross proceeds in this offering. Because there is no minimum offering amount required as a condition to closing in this offering, the actual offering amount, placement agent fees, and proceeds to us, if any, are not presently determinable and may be substantially less than the total maximum offering amounts set forth above. See "Plan of Distribution" for more information on this offering and the placement agent arrangements.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Delivery of the shares of common stock is expected to be made on or about March 22, 2018, subject to customary closing conditions.

H.C. Wainwright & Co.

The date of this prospectus supplement is March 20, 2018.

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We have not, and the placement agent has not, authorized anyone to provide you with information that is different from that which is contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus and in any free writing prospectus that we have authorized for use in connection with this offering. We are not, and the placement agent is not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying prospectus, the documents incorporated

by reference in this prospectus supplement and the accompanying prospectus, and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections of this prospectus supplement entitled "Where You Can Find More Information" and "Incorporation of Certain Information by Reference."

ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is the prospectus supplement, which describes the specific terms of the common stock being offered by us, and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference. The second part, the accompanying prospectus, including the documents incorporated by reference therein, provides more general information, some of which may not apply to this offering of common stock. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or in any document incorporated by reference that was filed with the Securities and Exchange Commission, or SEC, before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in the accompanying prospectus — the statement in the document having the later date modifies or supersedes the earlier statement.

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.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights information contained in other parts of this prospectus supplement or incorporated by reference into this prospectus supplement from our filings with the SEC listed in the section of the prospectus supplement 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 shares of common stock 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 supplement. You should read the entire prospectus supplement, the registration statement of which this prospectus supplement 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 supplement, before purchasing our shares of common stock in this offering. Unless the context requires otherwise, references in this prospectus supplement to "AmpliPhi," "we," "us" and "our" refer to AmpliPhi Biosciences Corporation together with its wholly owned subsidiaries.

Our Company

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

The extensive use of antibiotics since the beginning of the modern antibiotics era in the 1940s has resulted in drug resistance among many disease-causing bacteria. According to the U.S. Centers for Disease Control and Prevention, or CDC, resistance to antibiotics threatens to reverse many of the key medical advances of the last half-century. Examples of clinically important microbes that are rapidly developing resistance to available antimicrobials, many of which are included on the World Health Organization Priority Pathogens List published in February 2017, 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., *S. aureus*, *Acinetobacter baumannii*, or *A. baumannii, Pseudomonas aeruginosa*, or *P. aeruginosa,* and *Klebsiella pneumonia*, or *K. pneumoniae*), meningitis (e.g., *Streptococcus pneumonia*, or *S. pneumonia*), urinary tract and gastrointestinal infections (e.g., *P. aeruginosa, E. coli* and *Clostridium difficile*, or *C. difficile*). As phages kill bacteria in ways entirely unlike the mechanisms used by traditional antibiotics, we believe that most multi-drug resistant, or MDR, bacteria will be susceptible to phage therapy. We believe bacteriophage therapeutics could also have the potential for the treatment of inflammatory diseases based on selective modulation of the microbiome and for the treatment of bacterial-driven cancers.

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

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

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

Our emphasis on targeted therapies builds upon our prior successes using tailored bacteriophage therapies under emergency investigational new drug applications to treat individual patients battling life-threatening, MDR bacterial pathogens who had exhausted their treatment options. In March 2016, we collaborated with several academic institutions and a U.S. Navy laboratory to produce a targeted bacteriophage therapy that successfully treated a critically ill, comatose patient with an MDR *A. baumannii* infection. Shortly after phage therapy was initiated, the patient emerged from the coma and continued to improve under an ongoing combination of phage and antibiotic therapies until the infection was cleared. To date, the infection has not returned.

On January 3, 2018, we announced interim, topline results for the first seven patients treated with our investigational bacteriophage product candidates, AB-SA01 and AB-PA01, under our ongoing single-patient expanded access program. The patients in this program were severely ill and unresponsive to antibiotic treatment at the time of enrollment and were treated under emergency investigational new drug applications in the United States or under the Special Access Scheme in Australia.

Of the seven patients treated, four patients received AB-SA01, administered intravenously, for treatment of *Staphylococcus aureus* infection, and three patients received AB-PA01, administered intravenously or in some cases by nebulizer, for treatment of *Pseudomonas aeruginosa* infection. The bacteriophage therapy was administered along with the treating physician's choice of best available antibiotic therapy. Treated patients suffered from bacteremia, endocarditis and lung infections, and both AB-SA01 and AB-PA01 were well tolerated in all patients with

no treatment-related serious adverse events reported.

Treatment success, defined as complete resolution or significant improvement of baseline signs and symptoms, was reported in six of the seven patients (86%) by physician's assessment. One patient was determined to be a treatment failure due to death, which occurred during surgery after three days of bacteriophage treatment. The treating physician determined that the death was unrelated to treatment with bacteriophage therapy. The 28-day all-cause mortality rate was 14%. No additional deaths occurred within 90 days following initiation of therapy, and patient follow-up is continuing. Based on the APACHE II scores (a validated critical care scoring system predictive of mortality) of the seven patients prior to initiation of bacteriophage therapy, the predicted mortality rate for this patient group was 46%.

No bacterial isolates resistant to the bacteriophage therapeutics were detected during the bacteriophage treatment course. Additional analyses of these data are ongoing, and presentations or publications of the detailed results are planned.

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 described in this prospectus that occurred prior to the reverse split have been adjusted to give retrospective effect to the reverse split.

In April 2017, we effected a 1-for-10 reverse split of our common stock. The share and per share information described in this prospectus supplement that occurred prior to the reverse split have been adjusted to give retrospective effect to the reverse split.

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 *www.ampliphibio.com*. Our website and the information contained on, or that can be accessed through, our website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus supplement. You should not rely on our website or any such information in making your decision whether to purchase our shares of common stock in this offering.

The Offering

Common stock offered by us in this offering	2,743,640 shares of our common stock.
Offering price	$1.10 per share of common stock.
Common stock outstanding immediately after this offering	12,242,568 shares (assuming the sale of all shares covered by this prospectus supplement).
Use of proceeds	We estimate that our net proceeds from this offering will be approximately $2.7 million after deducting estimated placement agent fees and other estimated offering expenses payable by us (assuming the sale of all shares covered by this prospectus supplement). We plan to use the net proceeds of this offering for general corporate purposes. See “Use of Proceeds.”
Risk factors	Investing in our securities involves a high degree of risk. See “Risk Factors” beginning on page S-5 of this prospectus supplement.
Exchange listing	Our common stock is listed on The NYSE American under the symbol “APHB.”

The number of shares of common stock to be outstanding immediately after this offering is based on 9,498,928 shares of our common stock outstanding as of December 31, 2017. Unless otherwise indicated, the number of shares of common stock presented in this prospectus supplement excludes as of December 31, 2017:

- 1,115,865 shares of common stock issuable upon the exercise of outstanding stock options, at a weighted-average exercise price of $3.17 per share;
- 4,758 shares of common stock reserved for future grant under our 2016 Equity Incentive Plan, or the 2016 plan, and 474,946 shares added to the 2016 Plan on January 1, 2018 pursuant to an “evergreen” provision;
- 21,016 shares of common stock reserved for future issuance under our 2016 Employee Stock Purchase Plan, or the ESPP, and 30,000 shares added to the ESPP on January 1, 2018 pursuant to an “evergreen” provision;
- 8,531,918 shares of common stock issuable upon the exercise of outstanding warrants, at a weighted-average exercise price of $2.87 per share; and

- 4,000,000 shares of common stock issued pursuant to our public offering on January 12, 2018.

RISK FACTORS

Investing in our common stock involves a high degree of risk. Our business, prospects, financial condition or operating results could be materially adversely affected by the risks identified below, as well as other risks not currently known to us or that we currently consider immaterial. The trading price of our common stock could decline due to any of these risks, and you may lose all or part of your investment. In assessing the risks described below, you should also refer to the information contained in our Annual Report on Form 10-K for the year ended December 31, 2017 and other documents which are incorporated by reference in this prospectus supplement and the accompanying prospectus in their entirety, and other documents that we file from time to time with the SEC.

Risks Related to This Offering

Management will have broad discretion as to the use of the proceeds from this offering, and we may not use the proceeds 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.

You will experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase.

Since the price per share of our common stock being offered is substantially higher than the net tangible book value per share of our common stock, you will suffer immediate and substantial dilution in the net tangible book value of the common stock you purchase in this offering. As of December 31, 2017, our net tangible book value was approximately $2.8 million, or $0.29 per share. Based on the offering price of $1.10 per share and our net tangible book value as of December 31, 2017, if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of $0.65 per share with respect to the net tangible book value of the common stock

you purchase in this offering.

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. Even if this offering is successful, 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, 2017, we had cash and cash equivalents of $5.1 million. We estimate that we will receive net proceeds of approximately $2.7 million from the sale of the securities offered by us in this offering, if all of the shares being offered by this prospectus supplement are sold. However, there is no minimum offering amount required as a condition to closing this offering, and therefore the actual total offering proceeds to us, before expenses, may be substantially less. In addition, we cannot provide assurances that our plans will not change or that changed circumstances will not result in the depletion of our capital resources more rapidly than we currently anticipate.

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

- the costs and timing of our research and development activities;
- the progress and cost of our clinical trials and other research and development activities;

- 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;
- whether and when we receive future Australian tax rebates, if any;
- the costs and timing of seeking regulatory approvals;
- the costs of filing, prosecuting, defending and enforcing any patent applications, claims, patents and other intellectual property rights; and
- the costs of lawsuits involving us or our product candidates.

We may seek 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.

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.

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.

Subject to the terms and conditions of the securities purchase agreements we plan to enter into with the investors in this offering which will restrict our ability to sell common stock or common stock equivalents for a period of 60 days, 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.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the accompanying prospectus, including the documents that we incorporate by reference herein and therein, contain statements that are not strictly historical in nature and are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These forward-looking statements are subject to the "safe harbor" created by Section 27A of the Securities Act and Section 21E of the Exchange Act and may include, but are not limited to, statements about:

This prospectus supplement and the accompanying prospectus, including the documents that we incorporate by reference herein and therein, 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 supplement, the accompanying 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;
- our expectations with respect to our new targeted phage therapies strategy, including the ability to demonstrate on the timeframe we anticipate, or at all, proof-of-concept sufficient to support regulatory approval;
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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 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;
- 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,” “inten “may,” “plan,” “potential,” “predict,” “project,” “should,” “will,” “would” or the negative of those terms, and similar expressio 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 supplement, the accompanying prospectus and the documents that we incorporate by reference 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 supplement and the accompanying 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.

USE OF PROCEEDS

We estimate that the net proceeds from the sale of shares of our common stock offered under this prospectus supplement, after deducting estimated placement agent fees and estimated offering expenses payable by us, will be $2.7 million if we sell the maximum amount of common stock offered hereby. However, this is a best efforts offering with no minimum, and we may not sell all or any of these shares; as a result, we may receive significantly less in net proceeds, and the net proceeds received may not be sufficient to continue to operate our business.

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. We may also use a portion of the net proceeds from this offering to in-license, invest in or acquire businesses or technologies that we believe are complementary to our own, although we have no current plans, commitments or agreements with respect to any acquisitions. As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses of the proceeds from this offering. Accordingly, we will retain broad discretion over the use of such proceeds. Pending the use of the net proceeds from this offering, we intend to invest the net proceeds in investment-grade, interest-bearing instruments.

Investors are cautioned that the proceeds from this offering are expected to be sufficient to enable us to continue operations for only a short period of time. We expect that we will have to raise additional capital through the sale of additional equity or convertible debt securities. It may be difficult for us to raise additional funds when needed and on favorable terms, or at all.

PLAN OF DISTRIBUTION

Pursuant to an engagement agreement, we have engaged H.C. Wainwright & Co., LLC as our exclusive placement agent, to solicit offers to purchase the common stock offered by this prospectus supplement. The placement agent is not purchasing any common stock for its own account in this offering, and is not required to arrange the purchase or sale of any additional specific number or dollar amount of the securities.

The placement agent has agreed to use its reasonable best efforts to arrange for the sale of all of the securities in this offering. There is no requirement that any minimum number of shares of common stock or dollar amount of common stock be sold in this offering and there can be no assurance that we will sell all or any of the common stock being offered. We will enter into securities purchase agreements directly with investors in connection with this offering, and we will only sell our shares of common stock to investors who have entered into securities purchase agreements.

We currently anticipate that the closing of this offering will occur on or about March 22, 2018, subject to customary closing conditions. On the closing date, the following will occur:

- we will receive funds in the amount of the aggregate purchase price;
- the placement agent will receive the placement agent fees in accordance with the terms of the engagement agreement; and
- we will deliver the shares of common stock to the investors.

We have agreed to pay the placement agent a placement agent fee an amount equal to 6.0% of the aggregate gross proceeds in this offering. We have also agreed to reimburse H.C. Wainwright & Co., LLC for its expenses in connection with this offering on a non-accountable basis in an amount equal to $35,000.

The following table shows the per share and total fees we will pay in connection with the sale of the common stock, assuming the purchase of all of the common stock we are offering.

Per share placement agent fees	$0.066
Total	$181,080.24

We estimate the total expenses of this offering which will be payable by us, excluding the placement agent fees, will be approximately $115,000.

We have agreed to indemnify the placement agent against certain liabilities, including liabilities under the Securities Act and liabilities arising from breaches of representations and warranties contained in our engagement letter with the placement agent. We have also agreed to contribute to payments the placement agent may be required to make in respect of such liabilities.

H.C. Wainwright & Co., LLC also served as our exclusive placement agent in connection with our underwritten public offering we consummated in January 19, 2018, for which it received compensation.

H.C. Wainwright & Co., LLC may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended, and any commissions received by it and any profit realized on the resale of the common stock sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act of 1933, as amended. As an underwriter, H.C. Wainwright & Co., LLC would be required to comply with the requirements of the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, including, without limitation, Rule 415(a)(4) under the Securities Act of 1933, as amended, and Rule 10b-5 and Regulation M under the Securities Exchange Act of 1934, as amended. These rules and regulations may limit the timing of purchases and sales of shares of common stock by H.C. Wainwright & Co., LLC acting as principal. Under these rules and regulations, H.C. Wainwright& Co., LLC:

- may not engage in any stabilization activity in connection with our securities; and
- may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Securities Exchange Act of 1934, as amended, until it has completed its participation in the distribution.

LEGAL MATTERS

The validity of the securities offered by this prospectus supplement and the accompanying prospectus will be passed upon for us by Cooley LLP, San Diego, California.

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, 2017, 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 MORE INFORMATION

This prospectus supplement and the accompanying prospectus are part of the registration statement on Form S-3 we filed with the SEC under the Securities Act and do not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus supplement or the accompanying prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference in this prospectus supplement and the accompanying prospectus for a copy of such contract, agreement or other document. Because we are subject to the information and reporting requirements of the Exchange Act, we file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the internet at the SEC's website at http://www.sec.gov. You may also read and copy any document we file at the SEC's Public Reference Room 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 Room.

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 (other than current reports or portions thereof furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items and other portions of documents that are furnished, but not filed, pursuant to applicable rules promulgated by the SEC) 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, 2017, filed with the SEC on March 14, 2018;
- our current reports on Form 8-K January 3, 2018 and January 12, 2018; 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.

PROSPECTUS

$75,000,000

Common Stock
Common Stock Warrants

From time to time, we may sell up to an aggregate of $75,000,000 of our common stock or warrants to purchase common stock, individually or in units, in amounts, at prices and on terms described in one or more supplements to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings.

Our common stock is traded on the NYSE MKT under the trading symbol “APHB.” On April 27, 2016, the last reported sale price of our common stock on the NYSE MKT was $3.20. The applicable prospectus supplement will contain information, where applicable, as to other listings, if any, on the NYSE MKT or other securities exchanges of the securities covered by the prospectus supplement.

Our principal executive offices are located at 3579 Valley Centre Drive, San Diego, California 92130, and our telephone number at that address is (858) 829-0829.

You should read this prospectus and any prospectus supplement carefully before you invest.

INVESTING IN OUR SECURITIES INVOLVES A HIGH DEGREE OF RISK. YOU SHOULD REVIEW CAREFULLY THE RISKS AND UNCERTAINTIES REFERENCED UNDER THE HEADING “RISK FACTORS” ON PAGE 4 OF THIS PROSPECTUS AS WELL AS THOSE CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT AND ANY RELATED FREE WRITING PROSPECTUS, AND UNDER SIMILAR HEADINGS IN THE OTHER DOCUMENTS THAT ARE INCORPORATED BY REFERENCE INTO THIS PROSPECTUS.

This prospectus may not be used to offer or sell any securities unless accompanied by a prospectus supplement.

As of the date of this prospectus, the aggregate market value of our outstanding common stock held by non-affiliates, or public float, was approximately $29.5 million, based on 6,066,466 shares of outstanding common stock held by non-affiliates as of the date of this prospectus, at a price of $4.86 per share, which was the last reported sale price of our common stock on the NYSE MKT on March 22, 2016. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities registered on the registration statement of which this prospectus is a part in a public primary offering with a value exceeding more than one-third of our public float in any 12-month period so long as our public float remains below $75.0 million. As of the date hereof, we have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus.

The securities may be sold directly by us to investors, through agents designated from time to time or to or through underwriters or dealers, on a continuous or delayed basis. For additional information on the methods of sale, you should refer to the section entitled “Plan of Distribution” in this prospectus and in the applicable prospectus supplement. If any agents or underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such agents or underwriters and any applicable fees, commissions, discounts and options to purchase additional securities will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds that we expect to receive from such sale will also be set forth in a prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this Prospectus is May 13, 2016.

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We have not authorized anyone to provide you with information different from the information contained in or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus that we may authorize to be provided to you. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained or incorporated by reference in this prospectus, any applicable prospectus supplement or any related free writing prospectus that we may authorize to be provided to you. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the front of the document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of our securities. Our business, financial condition, results of operations and prospects may have changed since that date.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the U.S. Securities and Exchange Commission, or the SEC, using a "shelf" registration process. Under this shelf registration process, we may offer and sell, either individually or in combination, in one or more offerings, any combination of the securities described in this prospectus, for total gross proceeds of up to $75,000,000.

This prospectus provides you with a general description of the securities we may offer. Each time we offer securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the terms of those securities and the offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. We may also add, update or change in the prospectus supplement (and in any related free writing prospectus that we may authorize to be provided to you) any of the information contained in this prospectus or in the documents that we have incorporated by reference into this prospectus. We urge you to carefully read this prospectus, any applicable prospectus supplement and any related free writing prospectus, together with the information incorporated herein by reference as described under the headings "Where You Can Find More Information" and "Incorporation of Certain Information by Reference" before buying any of the securities being offered.

SUMMARY

The following summary highlights information contained elsewhere in this prospectus or incorporated by reference herein and does not contain all the information that may be important to purchasers of our securities. You should carefully read this prospectus, all documents incorporated by reference, any prospectus supplement and any related free writing prospectus, and the additional information described under the caption "Where You Can Find More Information" in this prospectus, before buying any of the securities being offered. References in this prospectus to "AmpliPhi," the "Company," "we," "us" and "our" refer to AmpliPhi Biosciences Corporation and its subsidiaries, on a consolidated basis, unless the context requires otherwise.

AmpliPhi Biosciences Corporation

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.

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 our collaboration partners in bacteriophage biology, synthetic biology and manufacturing, to develop second-generation bacteriophage products.

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, 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., *S. aureus* and methicillin-resistant *S. aureus*, or MRSA), pneumonia and lung infections in both community and hospital settings and cystic fibrosis patients (e.g., *A. baumannii, P. aeruginosa,* and *K. pneumoniae*), meningitis (e.g., *S. pneumonia*), 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 multi-drug resistant bacteria will be susceptible to phage therapy. Furthermore, should resistant bacteria emerge, we believe it will remain possible to identify phages that can effectively kill these resistant bacteria.

Our lead product candidate is AB-SA01, for the treatment of *S. aureus* infections, including MRSA. We also have another product candidate in earlier stage development, AB-PA01 for the treatment of *P. aeruginosa* infections, and an additional discovery program, AB-CD01 for the treatment of *C. difficile* infections.

We are developing our phage product candidates using a proprietary discovery and development platform, which is designed for rapid identification, characterization and manufacturing of multiple phage therapeutics. Each product candidate combines several carefully chosen phages, which target a specific disease-causing bacterial pathogen such as *S. aureus, P. aeruginosa*, and *C. difficile*. We believe that the combination of our platform, our manufacturing capability, our understanding of the regulatory and development requirements of bacteriophage therapeutics, and the clinical and scientific expertise of our collaboration partners may enable the rapid advancement of phage therapeutics through the clinic and the regulatory approval process.

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.

On February 22, 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.

Our shares have been listed on the NYSE MKT since August of 2015 and before that were traded on the OTCQB. The trading symbol for our common stock is “APHB”.

In November 2015, our board of directors approved a plan for us to reincorporate as AmpliPhi Biosciences Corporation in the State of Delaware, subject to the approval of our shareholders. We may decide to abandon our plan to reincorporate in the State of Delaware at our election.

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

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 shareholder 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 $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 shareholders 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.

RISK FACTORS

An investment in our securities involves a high degree of risk. Prior to making a decision about investing in our securities, you should carefully consider the specific risk factors discussed in the sections entitled “Risk Factors” contained in any applicable prospectus supplement and our filings with the SEC, which are incorporated by reference in this prospectus, together with all of the other information contained in this prospectus, any applicable prospectus supplement or free writing prospectus, or incorporated by reference in this prospectus. These risks and uncertainties are not the only risks and uncertainties we face. Additional risks and uncertainties not presently known to us, or that we currently view as immaterial, may also impair our business. If any of the risks or uncertainties described in our SEC filings or any prospectus supplement or free writing prospectus that we may authorize to be provided to you, or any additional risks and uncertainties actually occur, our business, financial condition and results of operations could be materially and adversely affected. In that case, the trading price of our securities could decline and you might lose all or part of your investment.

THE SECURITIES WE MAY OFFER

We may offer up to $75,000,000 of shares of our common stock and/or warrants to purchase common stock from time to time under this prospectus at prices and on terms to be determined by market conditions at the time of offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities.

A prospectus supplement and any related free writing prospectus that we may authorize to be provided to you also may add, update or change information contained in this prospectus or in documents we have incorporated by reference.

This prospectus may not be used to offer or sell securities unless it is accompanied by a prospectus supplement.

We may sell the securities directly to or through agents, underwriters or dealers. We, and our agents, dealers or underwriters, reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities through agents or underwriters, we will include in the applicable prospectus supplement:

- the name of those agents or underwriters;
- applicable fees, discounts and commissions to be paid to them;
- details regarding options to purchase additional securities, if any; and
- the net proceeds to us.

Common Stock. We may issue shares of our common stock from time to time. Holders of our common stock are entitled to one vote per share on all matters submitted to a vote of shareholders. Subject to any preferences of any of our preferred stock that may be outstanding, holders of our common stock are entitled to dividends when and if declared by our board of directors.

Warrants. We may issue warrants for the purchase of common stock in one or more series, from time to time. We may issue warrants independently or together with common stock, and the warrants may be attached to or separate from our common stock. In this prospectus, we have summarized certain general features of the warrants. We urge you, however, to read the applicable prospectus supplement (and any free writing prospectus that we may authorize to be provided to you) related to the particular series of warrants being offered, as well as the complete warrant agreement and warrant certificate that contain the terms of the warrants. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant agreement, including a form of warrant certificate, that describes the terms of the particular series of warrants we are offering before the issuance of the related series of warrants.

We will evidence each series of warrants by warrant certificates that we will issue. Warrants may be issued under an applicable warrant agreement that we enter into with a warrant agent. We will indicate the name and address of the warrant agent, if applicable, in the prospectus supplement relating to the particular series of warrants being offered.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Statements contained in this prospectus, in the documents incorporated by reference herein and in any prospectus supplement or free writing prospectus that we may authorize to be provided to you that are not strictly historical in nature are forward-looking statements within the meaning of Section 27A of the Securities Act and within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These forward-looking statements are subject to the "safe harbor" created by Section 27A of the Securities Act and Section 21E of the Exchange Act and may include, but are not limited to, statements about:

- our estimates regarding anticipated operating losses, capital requirements and needs for additional funds;
- 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 plans, including planned clinical trials;
- our research and development plans, including our plans to initiate a clinical trial of AB-SA01 for the treatment of wounds infected with S. aureus in the first half of 2016;
- 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 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;
- 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; and
- our ability to operate our business without infringing the intellectual property rights of others.

In some cases, you can identify forward-looking statements by terms such as “anticipates,” “believes,” “could,” “estimates,” “expects,” “goal,” “intends,” “may,” “plans,” “potential,” “predicts,” “projects,” “should,” “will,” “would,” the negative of thes words or similar expressions intended to identify forward-looking statements. These statements reflect our views as of the date on which they were made with respect to future events and are based on assumptions and subject to risks and uncertainties. The underlying information and expectations are likely to change over time. Given these uncertainties, you should not place undue reliance on these forward-looking statements as actual events or results may differ materially from those projected in the forward-looking statements due to various factors, including, but not limited to, those set forth under the heading “Risk Factors” in any applicable prospectus supplement or free writing prospectus and in our SEC filings. These forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement.

You should rely only on the information contained, or incorporated by reference, in this prospectus, the registration statement of which this prospectus is a part, the documents incorporated by reference herein, and any applicable prospectus supplement or free writing prospectus and understand that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements. Unless required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments. Thus, you should not assume that our silence

over time means that actual events are bearing out as expressed or implied in such forward-looking statements. Before deciding to purchase our securities, you should carefully consider the risk factors discussed here or incorporated by reference, in addition to the other information set forth in this prospectus, any accompanying prospectus supplement or free writing prospectus and in the documents incorporated by reference.

USE OF PROCEEDS

Except as described in any prospectus supplement or in any related free writing prospectus that we may authorize to be provided to you, we currently intend to use the net proceeds from the sale of securities under this prospectus for general corporate purposes, including manufacturing expenses, clinical trial expenses, research and development expenses and general and administrative expenses. We may also use a portion of the net proceeds to in-license, invest in or acquire businesses or technologies that we believe are complementary to our own, although we have no current plans, commitments or agreements with respect to any acquisitions. As of the date of this prospectus, we cannot specify with certainty all of the particular uses of the proceeds from the sale of securities under this prospectus. Accordingly, we will retain broad discretion over the use of such proceeds. Pending the use of the net proceeds from the sale of securities under this prospectus as described above, we intend to invest the net proceeds in investment-grade, interest-bearing instruments.

DESCRIPTION OF CAPITAL STOCK

Our articles of incorporation authorize us to issue up to 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. As of April 15, 2016, we had 8,242,528 shares of common stock outstanding and no shares of preferred stock outstanding.

The following summary description of our capital stock is based on the provisions of our articles of incorporation and bylaws and the applicable provisions of the Washington Business Corporation Act, or WBCA. This information is qualified entirely by reference to the applicable provisions of our articles of incorporation, bylaws and the WBCA. For information on how to obtain copies of our articles of incorporation and bylaws, which are exhibits to the registration statement of which this prospectus is a part, see “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.”

Common Stock

Voting

Our common stock is entitled to one vote for each share held on all matters submitted to a vote of the shareholders, 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 shareholders 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.

Fully Paid and Nonassessable

All of our outstanding shares of common stock are, and the shares of common stock to be issued in any offering under this prospectus will be, fully paid and nonassessable.

Preferred Stock

Our board of directors has the authority, without further action by the shareholders, to issue up to 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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Registration Rights

Certain holders of shares of our common stock and of warrants to purchase shares of our common stock, or their transferees, are entitled to certain registration rights under the Securities Act as set forth below.

Demand registration rights. Pursuant to that certain Subscription Agreement, dated June 26, 2013, which we refer to as the June 2013 Subscription Agreement, from the date that is the earlier of (a) June 26, 2018 and (b) 180 days after the effective date of the registration statement for our initial public offering, the holders of at least 50% of our common stock issued upon conversion of shares of our Series B redeemable convertible preferred stock and/or issued or issuable upon the exercise of warrants issued pursuant to the June 2013 Subscription Agreement are entitled to request to have such shares registered by us on a Form S-1 registration statement. As of April 15, 2016, the holders of an aggregate of 2,114,534 shares of common stock and holders of warrants to purchase an aggregate of 467,035 shares of our common stock are entitled to such rights.

Form S-3 registration rights. At any time we are eligible to use a Form S-3 registration statement, holders of at least 30% of our common stock issued upon conversion of shares of our Series B redeemable convertible preferred stock and/or issued or issuable upon the exercise of warrants issued pursuant to the June 2013 Subscription Agreement are entitled to request to have such shares registered by us on a Form S-3 registration statement. As of April 15, 2016, the holders of an aggregate of 2,114,534 shares of common stock and holders of warrants to purchase an aggregate of 467,035 shares of our common stock are entitled to such rights.

"Piggyback" registration rights. If we propose to file a registration statement to register any of our securities under the Securities Act either for our own account or for the account of other securityholders, the holders of warrants to purchase an aggregate of 27,102 shares of our common stock are entitled to notice of the registration and will be entitled to include the shares of common stock issued or issuable upon exercise of such warrants in any such registration statement. These piggyback registration rights are subject to specified conditions and limitations, including, in the case of an underwritten offering, the right of the underwriters to limit the number of shares included in any such registration under specified circumstances. The warrants described above in this paragraph expire in December 2016.

In addition, so long as we are required to maintain an effective registration statement covering shares of common stock issued pursuant to that certain Subscription Agreement, dated December 16, 2013, which we refer to as the December 2013 Subscription Agreement, or shares of common stock issued pursuant to that certain Subscription Agreement, dated March 10, 2015, which we refer to as the March 2015 Subscription Agreement, then, if there is not an effective registration statement covering such shares, the holders of such shares will be eligible for the rights contained in the immediately preceding paragraph. With respect to each holder of the foregoing registration rights, we are required to keep a registration statement covering such shares effective until all applicable shares of common stock

held by such holder may be sold under Rule 144 of the Securities Act. As of April 15, 2016, the holders of an aggregate of 867,241 shares of common stock were entitled to such rights.

If we propose to file a registration statement under the Securities Act with respect to an underwritten offering for our own account, the holders of the securities issued pursuant to the June 2013 Subscription Agreement, as well as the shares held by Intrexon Corporation, will be entitled to advanced notice of the proposed filing of such registration statement and will be entitled to include the securities described above or, in the case of Intrexon Corporation, the shares of common stock held by Intrexon Corporation, in any such registration statement. These piggyback registration rights are subject to specified conditions and limitations, including, in the case of an underwritten offering, the right of the underwriters to limit the number of shares included in any such registration under specified circumstances.

From the date that is the earlier of (a) December 31, 2016 or (b) the closing of our first underwritten public offering, the holders of warrants to purchase an aggregate of 170,000 shares of our common stock, which warrants were issued by us pursuant to our acquisition of certain assets of Novolytics Limited in January 2016, will be entitled to piggyback registration rights provided such securities are not then covered by an effective registration statement.

Resale registration statements. Pursuant to that certain Registration Rights Agreement, dated December 16, 2013, by and between us and the purchasers of shares of common stock and warrants to purchase common stock named therein, and that certain Registration Rights Agreement, dated March 10, 2015, by and between us and the purchasers of shares of common stock and warrants to purchase common stock named therein, we agreed to file registration statements on Form S-1 covering the resale of the shares of common stock purchased under the December 2013 Subscription Agreement or March 2015 Subscription Agreement, as applicable, which became effective on December 29, 2014 and May 14, 2015, respectively. With respect to each holder of the foregoing registration rights, we are required to keep such registration statements effective until all applicable shares of common stock may be sold under Rule 144 of the Securities Act.

Expenses of registration. We will pay all expenses relating to any piggyback or Form S-1 or S-3 registration, other than underwriting discounts and commissions, subject to specified conditions and limitations.

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. These provisions include a classified board of directors and a requirement for the vote of shareholders 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 any business combination, such as a merger or a share exchange with another company. In addition, these provisions may frustrate or prevent any attempts by our shareholders to replace or remove our current management by making it difficult for shareholders 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 shareholder 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 shareholder.

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 shareholders.

Articles of Incorporation and Bylaws

The provisions of our articles of incorporation and bylaws may delay or discourage transactions involving an actual or potential change in our control or change in our management, including transactions in which shareholders might otherwise receive a premium for their shares or transactions that our shareholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our common stock. Among other things, our certificate of incorporation and bylaws would:

- permit our board of directors to issue up to 10,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate (including the right to approve an acquisition or other change in our control);

- provide that shareholders seeking to present proposals before a meeting of shareholders or to nominate candidates for election as directors at a meeting of shareholders must provide notice in writing in a timely manner and also specify requirements as to the form and content of a shareholder's notice; and

- do not provide for cumulative voting rights (therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose).

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.

DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of common stock in one or more series. We may issue warrants independently or together with common stock, and the warrants may be attached to or separate from our common stock. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. The terms of any warrants offered under a prospectus supplement may differ from the terms described below.

We have filed a form of warrant agreement and form of warrant certificate containing the terms of the warrants being offered as an exhibit to the registration statement of which this prospectus is a part. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant agreement, including a form of warrant certificate, that describes the terms of the particular series of warrants we are offering before the issuance of the related series of warrants. The following summaries of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to the particular series of warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplements related to the particular series of warrants that we may offer under this prospectus, as well as any related free writing prospectuses, and the complete warrant agreements and warrant certificates that contain the terms of the warrants.

General

We will describe in the applicable prospectus supplement the terms of the series of warrants being offered, including:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased;
- if applicable, the number of warrants issued with each share of common stock;
- if applicable, the date on and after which the warrants and the related shares will be separately transferable;
- the number of shares of common stock purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;

- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of shares issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreements and warrants may be modified; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of common stock purchasable upon such exercise, including the right to receive dividends, if any, or, payments upon our liquidation, dissolution or winding up or to exercise voting rights.

Exercise of Warrants

Each warrant will entitle the holder to purchase the number of shares of common stock that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent in immediately available funds, as provided in the applicable prospectus supplement. We will set forth on the reverse side of the warrant certificate and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to the warrant agent.

Upon receipt of the required payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the shares purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

Governing Law

Unless we provide otherwise in the applicable prospectus supplement, the warrants and warrant agreements will be governed by and construed in accordance with the laws of the State of New York.

Enforceability of Rights by Holders of Warrants

Each warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

LEGAL OWNERSHIP OF SECURITIES

We can issue securities in registered form or in the form of one or more global securities. We describe global securities in greater detail below. We refer to those persons who have securities registered in their own names on the books that we or any applicable trustee, depository or warrant agent maintain for this purpose as the "holders" of those securities. These persons are the legal holders of the securities. We refer to those persons who, indirectly through others, own beneficial interests in securities that are not registered in their own names, as "indirect holders" of those securities.

As we discuss below, indirect holders are not legal holders, and investors in securities issued in book-entry form or in street name will be indirect holders.

Book-Entry Holders

We may issue securities in book-entry form only, as we will specify in the applicable prospectus supplement. This means securities may be represented by one or more global securities registered in the name of a financial institution that holds them as depositary on behalf of other financial institutions that participate in the depositary's book-entry system. These participating institutions, which are referred to as participants, in turn hold beneficial interests in the securities on behalf of themselves or their customers.

Only the person in whose name a security is registered is recognized as the holder of that security. Securities issued in global form will be registered in the name of the depositary or its participants. Consequently, for securities issued in global form, we will recognize only the depositary as the holder of the securities, and we will make all payments on the securities to the depositary. The depositary passes along the payments it receives to its participants, which in turn pass the payments along to their customers who are the beneficial owners. The depositary and its participants do so under agreements they have made with one another or with their customers; they are not obligated to do so under the terms of the securities.

As a result, investors in a book-entry security will not own securities directly. Instead, they will own beneficial interests in a global security, through a bank, broker or other financial institution that participates in the depositary's book-entry system or holds an interest through a participant. As long as the securities are issued in global form, investors will be indirect holders, and not holders, of the securities.

Street Name Holders

We may terminate a global security or issue securities in non-global form. In these cases, investors may choose to hold their securities in their own names or in "street name." Securities held by an investor in street name would be registered in the name of a bank, broker or other financial institution that the investor chooses, and the investor would hold only a beneficial interest in those securities through an account he or she maintains at that institution.

For securities held in street name, we will recognize only the intermediary banks, brokers and other financial institutions in whose names the securities are registered as the holders of those securities, and we will make all payments on those securities to them. These institutions pass along the payments they receive to their customers who are the beneficial owners, but only because they agree to do so in their customer agreements or because they are legally required to do so. Investors who hold securities in street name will be indirect holders, not holders, of those securities.

Legal Holders

Our obligations, as well as the obligations of any applicable trustee and of any third parties employed by us or a trustee, run only to the legal holders of the securities. We do not have obligations to investors who hold beneficial interests in global securities, in street name or by any other indirect means. This will be the case whether an investor chooses to be an indirect holder of a security or has no choice because we are issuing the securities only in global form.

For example, once we make a payment or give a notice to the holder, we have no further responsibility for the payment or notice even if that holder is required, under agreements with depositary participants or customers or by law, to pass it along to the indirect holders but does not do so.

Special Considerations for Indirect Holders

If you hold securities through a bank, broker or other financial institution, either in book-entry form or in street name, you should check with your own institution to find out:

- how it handles securities payments and notices;

- whether it imposes fees or charges;

- how it would handle a request for the holders' consent, if ever required;

- whether and how you can instruct it to send you securities registered in your own name so you can be a holder, if that is permitted in the future;

- how it would exercise rights under the securities if there were a default or other event triggering the need for holders to act to protect their interests; and

- if the securities are in book-entry form, how the depositary's rules and procedures will affect these matters.

Global Securities

A global security is a security that represents one or any other number of individual securities held by a depositary. Generally, all securities represented by the same global securities will have the same terms.

Each security issued in book-entry form will be represented by a global security that we deposit with and register in the name of a financial institution or its nominee that we select. The financial institution that we select for this purpose is called the depositary. Unless we specify otherwise in the applicable prospectus supplement, the Depository Trust Company, or DTC, will be the depositary for all securities issued in book-entry form.

A global security may not be transferred to or registered in the name of anyone other than the depositary, its nominee or a successor depositary, unless special termination situations arise. We describe those situations below under "Special Situations When a Global Security Will Be Terminated." As a result of these arrangements, the depositary, or its nominee, will be the sole registered owner and holder of all securities represented by a global security, and investors will be permitted to own only beneficial interests in a global security. Beneficial interests must be held by means of an account with a broker, bank or other financial institution that in turn has an account with the depositary or with another institution that does. Thus, an investor whose security is represented by a global security will not be a holder of the security, but only an indirect holder of a beneficial interest in the global security.

If the prospectus supplement for a particular security indicates that the security will be issued in global form only, then the security will be represented by a global security at all times unless and until the global security is terminated. If termination occurs, we may issue the securities through another book-entry clearing system or decide that the

securities may no longer be held through any book-entry clearing system.

Special Considerations for Global Securities

As an indirect holder, an investor's rights relating to a global security will be governed by the account rules of the investor's financial institution and of the depositary, as well as general laws relating to securities transfers. We do not recognize an indirect holder as a holder of securities and instead deal only with the depositary that holds the global security.

If securities are issued only in the form of a global security, an investor should be aware of the following:

- An investor cannot cause the securities to be registered in his or her name and cannot obtain non-global certificates for his or her interest in the securities, except in the special situations we describe below.

- An investor will be an indirect holder and must look to his or her own bank or broker for payments on the securities and protection of his or her legal rights relating to the securities, as we describe above.

- An investor may not be able to sell interests in the securities to some insurance companies and to other institutions that are required by law to own their securities in non-book-entry form.

- An investor may not be able to pledge his or her interest in a global security in circumstances where certificates representing the securities must be delivered to the lender or other beneficiary of the pledge in order for the pledge to be effective.

- The depositary's policies, which may change from time to time, will govern payments, transfers, exchanges and other matters relating to an investor's interest in a global security. We and any applicable trustee have no responsibility for any aspect of the depositary's actions or for its records of ownership interests in a global security. We and the trustee also do not supervise the depositary in any way.

- The depositary may, and we understand that DTC will, require that those who purchase and sell interests in a global security within its book-entry system use immediately available funds, and your broker or bank may require you to do so as well.

- Financial institutions that participate in the depositary's book-entry system, and through which an investor holds its interest in a global security, may also have their own policies affecting payments, notices and other matters relating to the securities. There may be more than one financial intermediary in the chain of ownership for an investor. We do not monitor and are not responsible for the actions of any of those intermediaries.

Special Situations When a Global Security Will Be Terminated

In a few special situations described below, the global security will terminate, and interests in it will be exchanged for physical certificates representing those interests. After that exchange, the choice of whether to hold securities directly or in street name will be up to the investor. Investors must consult their own banks or brokers to find out how to have their interests in securities transferred to their own name, so that they will be direct holders. We have described the rights of holders and street name investors above.

The global security will terminate when the following special situations occur:

- if the depositary notifies us that it is unwilling, unable or no longer qualified to continue as depositary for that global security and we do not appoint another institution to act as depositary within 90 days;

- if we notify any applicable trustee that we wish to terminate that global security; or

- if an event of default has occurred with regard to securities represented by that global security and has not been cured or waived.

The applicable prospectus supplement may also list additional situations for terminating a global security that would apply only to the particular series of securities covered by the prospectus supplement. When a global security terminates, the depositary, and not we or any applicable trustee, is responsible for deciding the names of the institutions that will be the initial direct holders.

PLAN OF DISTRIBUTION

We may sell our securities covered by this prospectus in any of three ways (or in any combination):

- to or through underwriters or dealers;
- directly to one or more purchasers; or
- through agents.

We may distribute the securities:

- from time to time in one or more transactions at a fixed price or prices, which may be changed from time to time;
- at market prices prevailing at the time of sale;
- at prices related to the prevailing market prices; or
- at negotiated prices.

Each time we offer and sell securities covered by this prospectus, we will provide a prospectus supplement or supplements that will describe the method of distribution and set forth the terms of the offering, including:

- the name or names of any underwriters, dealers or agents;
- the amounts of securities underwritten or purchased by each of them;
- the purchase price of securities and the proceeds we will receive from the sale;

- any option under which underwriters may purchase additional securities from us;

- any underwriting discounts or commissions or agency fees and other items constituting underwriters' or agents' compensation;

- the public offering price of the securities;

- any discounts, commissions or concessions allowed or reallowed or paid to dealers; and

- any securities exchange or market on which the securities may be listed.

Any public offering price and any discounts or concessions allowed or reallowed or paid to dealers may be changed from time to time. We may determine the price or other terms of the securities offered under this prospectus by use of an electronic auction. We will describe how any auction will determine the price or any other terms, how potential investors may participate in the auction and the nature of the obligations of the underwriter, dealer or agent in the applicable prospectus supplement.

Underwriters or dealers may offer and sell the offered securities from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. If underwriters or dealers are used in the sale of any securities, the securities will be acquired by the underwriters or dealers for their own account and may be resold from time to time in one or more transactions described above. The securities may be either offered to the public through underwriting syndicates represented by managing underwriters, or directly by underwriters or dealers. Generally, the underwriters' or dealers' obligations to purchase the securities will be subject to certain conditions precedent. The underwriters or dealers will be obligated to purchase all of the securities if they purchase any of the securities, unless otherwise specified in the prospectus supplement. We may use underwriters with whom we have a material relationship. We will describe the nature of any such relationship in the prospectus supplement, naming the underwriter.

We may sell the securities through agents from time to time. The prospectus supplement will name any agent involved in the offer or sale of the securities and any commissions we pay to them. Generally, any agent will be acting on a best efforts basis for the period of its appointment. We may authorize underwriters, dealers or agents to solicit offers by certain purchasers to purchase the securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. The contracts will be subject only to those conditions set forth in the prospectus supplement, and the prospectus supplement will set forth any commissions we pay for solicitation of these contracts.

Agents, dealers and underwriters may be entitled to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which the agents, dealers or underwriters may be required to make in respect thereof. Agents, dealers and underwriters may be customers of, engage in transactions with, or perform services for us in the ordinary course of business.

All securities we may offer, other than common stock, will be new issues of securities with no established trading market. Any underwriters may make a market in these securities, but will not be obligated to do so and may discontinue any market making at any time without notice. We cannot guarantee the liquidity of the trading markets for any securities.

Any underwriter may engage in over-allotment, stabilizing transactions, short covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Over-allotment involves sales in excess of the offering size, which create a short position. This short sales position may involve either "covered" short sales or "naked" short sales. Covered short sales are short sales made in an amount not greater than the underwriters' over-allotment option to purchase additional securities in the relevant offering. The underwriters may close out any covered short position either by exercising their over-allotment option or by purchasing securities in the open market. To determine how they will close the covered short position, the underwriters will consider, among other things, the price of securities available for purchase in the open market, as compared to the price at which they may purchase securities through the over-allotment option. Naked short sales are short sales in excess of the over-allotment option. The underwriters must close out any naked short position by purchasing securities in the open market. A naked short position is more likely

to be created if the underwriters are concerned that, in the open market after pricing, there may be downward pressure on the price of the securities that could adversely affect investors who purchase securities in the offering. Stabilizing transactions permit bids to purchase the underlying security for the purpose of fixing the price of the security so long as the stabilizing bids do not exceed a specified maximum. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a covering transaction to cover short positions.

Any underwriters who are qualified market makers on the NYSE MKT may engage in passive market making transactions in our common stock and warrants, as applicable, on the NYSE MKT in accordance with Rule 103 of Regulation M, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the securities. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded.

Similar to other purchase transactions, an underwriter's purchase to cover the syndicate short sales or to stabilize the market price of our securities may have the effect of raising or maintaining the market price of our securities or preventing or mitigating a decline in the market price of our securities. As a result, the price of our securities may be higher than the price that might otherwise exist in the open market. The imposition of a penalty bid might also have an effect on the price of the securities if it discourages resales of the securities.

Neither we nor any underwriter makes any representation or prediction as to the effect that the transactions described above may have on the price of the securities. If such transactions are commenced, they may be discontinued without notice at any time.

LEGAL MATTERS

The validity of the securities being offered by this prospectus will be passed upon for us by Cooley LLP, San Diego, California.

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, 2015, as set forth in their report (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's 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 MORE INFORMATION

We are a reporting company and file annual, quarterly and current reports, proxy statements and other information with the SEC. We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the securities we are offering under this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits which are part of the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. You may read and copy any document we file with the SEC at the SEC’s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the Public Reference Room. Our SEC filings are also available at the SEC’s website at *www.sec.gov*. We maintain a website at *www.ampliphibio.com*. Information contained in our website does not constitute a part of this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information 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 an important 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, while information that we file later with the SEC will automatically update and supersede the information in this prospectus. We also incorporate by reference into this prospectus all documents (other than current reports or portions thereof furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items and other portions of documents that are furnished, but not filed, pursuant to applicable rules promulgated by the SEC) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of the registration statement, and (ii) after the effectiveness of the registration statement but prior to the termination of the offering of the securities covered by this prospectus:

- our Annual Report on Form 10-K for the year ended December 31, 2015, filed with the SEC on March 30, 2016;
- our Current Reports on Form 8-K, filed with the SEC on January 8, 2016, January 19, 2016, March 29, 2016, April 8, 2016, April 14, 2016 and April 20, 2016; 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.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents by writing us at 3579 Valley Centre Drive, Suite 100, San Diego, California 92130 or telephoning 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.

2,743,640 Shares

Common Stock

PROSPECTUS SUPPLEMENT

H.C. Wainwright & Co.

March 20, 2018