AmpliPhi Biosciences Corp
Form 424B5
June 01, 2016

Filed Pursuant to Rule 424(b)(5)
Registration No. 333-210974

PROSPECTUS SUPPLEMENT
(To Prospectus dated May 13, 2016)

2,127,660 Shares of Common Stock

Warrants to Purchase 1,063,830 Common Shares

We are offering 2,127,660 shares of our common stock and warrants to purchase up to 1,063,830 shares of our common stock (and the shares of our common stock that are issuable from time to time upon exercise of the warrants). The common stock and warrants will be sold in combination, with one warrant to purchase one share of common stock for every two shares of common stock sold. The combined purchase price for each share of common stock and accompanying warrant is $2.35. The shares of common stock and warrants are immediately separable and will be issued separately. Our common stock is listed on the NYSE MKT under the symbol “APHB.” On May 27, 2016, the last reported sale price of our common shares on the NYSE MKT was $2.25 per share.

The warrants will become exercisable upon issuance, and will remain exercisable until the fifth anniversary of the date of issuance. The exercise price for the warrants initially will be $2.25, subject to certain adjustment.

There is no established public trading market for the warrants and we do not expect a market to develop. In addition, we do not intend to list the warrants on the NYSE MKT, any other national securities exchange or any other nationally recognized trading system.

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 $30.2 million, based on 7,653,825 shares of outstanding common stock held by non-affiliates as of the date of this prospectus supplement, at a price of $3.95 per share, which was the last reported sale price of our common stock on the NYSE MKT on April 13, 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 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 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 supplement.

Investing in our securities involves a high degree of risk. Please read "Risk Factors" beginning on page S-5 of this 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 supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

We have engaged Roth Capital Partners, LLC and Griffin Securities, Inc., or the placement agents, as our placement agents in connection with this offering. The placement agents have no obligation to buy any of the securities from us or to arrange for the purchase or sale of any specific number or dollar amount of securities. We have agreed to pay the placement agents the placement agent fees set forth in the table below, which assumes that we sell all of the common shares and warrants we are offering. See "Plan of Distribution" beginning on page S-14 of this prospectus supplement for more information regarding these arrangements.

	Per Share and Related Warrants	Total
Public offering price	$ 2.35	$5,000,001
Placement agent fees (1)	$ 0.1645	$350,000
Proceeds, before expenses, to us (2)	$ 2.1855	$4,650,001

(1) In addition, we have agreed to reimburse the placement agents for certain out-of-pocket expenses. See "Plan of Distribution" beginning on page S-14 of this prospectus supplement.

(2) The amount of the offering proceeds to us presented in this table does not give effect to any exercise of the warrants being issued in this offering.

Delivery of the shares of common stock and warrants is expected to be made on or about June 3, 2016, subject to the satisfaction of certain conditions.

Roth Capital Partners

Griffin Securities, Inc.

The date of this prospectus supplement is May 31, 2016.

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We have not, and the placement agents have 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 agents are 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 shares and warrants 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 shares and warrants. 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.

Unless the context requires otherwise, references in this prospectus supplement and the accompanying prospectus to "AmpliPhi," "the Company," "we," "us" and "our" refer to AmpliPhi Biosciences Corporation and its subsidiaries on a consolidated basis.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information contained elsewhere or incorporated by reference in this prospectus supplement and the accompanying prospectus. This summary does not contain all the information you should consider before investing in our securities. You should read and consider carefully the more detailed information in this prospectus supplement and the accompanying prospectus, including the factors described under the heading "Risk Factors" in this prospectus supplement beginning on page S-5 and the financial and other information incorporated by reference in this prospectus supplement and the accompanying prospectus, as well as the information included in any free writing prospectus that we have authorized for use in connection with this offering, before making an investment decision.

Company Overview

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. baumanii, 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 are currently conducting a Phase 1 clinical trial of AB-SA01 for the treatment of *S. aureus* in chronic rhinosinusitis patients and a second Phase 1 clinical trial to evaluate the safety of AB-SA01 when administered topically to the intact skin of healthy adults. We expect to report final data for both trials in the second half of 2016. 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 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 board of directors has approved a plan for us to reincorporate as AmpliPhi Biosciences Corporation in the State of Delaware via merger with and into a newly formed, wholly owned subsidiary, 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, Suite 100, 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 supplement. You should not rely on our website or any such information in making your decision whether to purchase any of our securities.

The Offering

Shares of common stock offered by us	2,127,660 shares
Warrants offered by us	Warrants to purchase up to 1,063,830 shares of common stock. The warrants will be immediately exercisable and will expire on the fifth anniversary of the date of issuance. Each warrant will have an exercise price of $2.25 per share. For more information, see the section entitled "Description of Securities We Are Offering — Warrants" on page S-12 of this prospectus supplement. This prospectus supplement also relates to the offering of the shares of common stock issuable upon exercise of the warrants.
Shares of common stock to be outstanding immediately after this offering	11,120,398 shares (assuming none of the warrants issued in this offering are exercised).
Use of proceeds	We intend to use the net proceeds from this offering for general corporate purposes, including manufacturing expenses, clinical trial expenses, research and development expenses and general and administrative expenses. See "Use of Proceeds" on page S-9.

NYSE MKT Listing	Our common stock is listed on the NYSE MKT under the symbol "APHB." We do not intend to list the warrants on the NYSE MKT, any other national securities exchange or any other nationally recognized trading system.
Risk Factors	Investing in our securities involves a high degree of risk. See "Risk Factors" beginning on page S-5.

The number of shares of common stock to be outstanding immediately after this offering is based on 8,242,528 shares of our common stock outstanding as of March 31, 2016 after giving effect to (1) the conversion of all of our outstanding Series B convertible preferred stock into an aggregate of 1,505,560 shares of common stock on April 8, 2016 and (2) the issuance by us on April 8, 2016 of 853,465 additional shares of common stock pursuant to our Common Stock Issuance Agreement, dated April 8, 2016, or CSIA, by and between us and certain of our shareholders, and assumes:

- the issuance by us of 2,127,660 shares of common stock in this offering; and
- the issuance by us of 750,210 shares of common stock in connection with the closing of this offering to the shareholders party to the CSIA, based on the public offering price of $2.35 per share in this offering;

and excludes, as of March 31, 2016:

- 872,977 shares of common stock issuable upon the exercise of outstanding stock options under our equity incentive plans, with a weighted average exercise price of $7.29 per share;
- 516,223 shares of common stock available for future grants under our equity incentive plans;
- 1,379,649 shares of common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of $9.34 per share; and

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- any additional shares that may become issuable pursuant to the operation of the CSIA in connection with a future bona fide equity financing conducted by us at an effective price per share that is less than the offering price per share of common stock and accompanying warrant being sold in this offering.

Unless otherwise indicated, the number of shares of common stock presented in this prospectus supplement excludes the shares of common stock issuable upon exercise of the warrants being offered by us in this offering.

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RISK FACTORS

Investing in our securities 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 Quarterly Report on Form 10-Q for the quarter ended March 31, 2016 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

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

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 substantial dilution with respect to the net tangible book value of the common stock you purchase in this offering. Based on the public offering price of $2.35 per share in this offering and our pro forma net tangible book value as of March 31, 2016 (giving effect as of March 31, 2016 to the automatic conversion of all of our outstanding shares of preferred stock on April 8, 2016 into an aggregate of 1,505,560 shares of common stock and the issuance by us on April 8, 2016 of 853,465 additional shares of common stock pursuant to the CSIA to the shareholders party thereto), if you purchase shares of common stock in this offering, you will suffer immediate and substantial dilution of $(1.80) per share with respect to the net tangible book value of the common stock. See the section entitled “Dilution” for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering.

In addition, the provisions of the CSIA may require us to issue more shares (in a private placement transaction at a price that is less than the greater of book or market value) than permitted without shareholder approval under NYSE MKT rules. The shareholders party to the CSIA may seek to enforce the provisions of the CSIA in such event notwithstanding the limitations imposed by the NYSE MKT.

In addition, we have a significant number of stock options and warrants outstanding. To the extent that outstanding stock options or warrants have been or may be exercised or other shares issued, investors purchasing our common stock in this offering may experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our shareholders or result in downward pressure on the price of our common stock.

There is no public market for the warrants to purchase shares of our common stock being offered in this offering.

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

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 as to the application of the net proceeds from this offering, and could spend the proceeds in ways that do not necessarily improve our operating results or enhance the value of our common stock or warrants.

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

We are generally not restricted from issuing additional common stock, including any securities that are convertible into or exchangeable for, or that represent the right to receive, common stock. The market price of our common stock could decline as a result of sales of common stock or securities that are convertible into or exchangeable for, or that represent the right to receive, common stock after this offering or the perception that such sales could occur.

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

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

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:

- 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 report final data for two Phase 1 clinical trials in the second 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 outcome of any litigation we or any of our officers or directors are involved in;
- 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 Jumpstart Our Business Startups Act of 2012;

- 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 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 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 this prospectus supplement, in the accompanying prospectus, and in our filings with the SEC. These forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement.

You should 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 in this offering, you should carefully consider the risk factors discussed or incorporated by reference herein, in addition to the other information set forth in this prospectus supplement, the accompanying prospectus and in the documents incorporated by reference.

USE OF PROCEEDS

We estimate that the net proceeds from the sale of 2,127,660 shares of our common stock and accompanying warrants to purchase up to 1,063,830 shares of our common stock that we are offering in this offering will be approximately $4.5 million, after deducting the placement agent fees and estimated offering expenses payable by us and excluding the proceeds, if any, from the exercise of the warrants issued pursuant to this offering.

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.

DILUTION

Our historical net tangible book value as of March 31, 2016 was approximately $2.2 million, or $0.37 per share of common stock. Our historical net tangible book value is the amount of our total tangible assets less our liabilities. Historical net tangible book value per common share is our historical net tangible book value divided by the number of shares of common stock outstanding as of March 31, 2016.

Our pro forma net tangible book value as of March 31, 2016 was $1.6 million, or $0.19 per share. Pro forma net tangible book value gives effect to (1) the conversion of all of our outstanding Series B convertible preferred stock into an aggregate of 1,505,560 shares of common stock on April 8, 2016, or the Conversion, (2) the issuance by us on April 8, 2016 of 853,465 shares of common stock pursuant to the CSIA to the shareholders party to the CSIA, or the Holders, and (3) a $1.0 million increase in our liabilities related to our obligation to pay the former holders of the Series B convertible preferred stock, other than the Holders, accrued dividends in connection with the Conversion, partially offset by the cancellation of $0.3 million in dividends payable and $0.1 million in Series B preferred stock derivative liability.

Pro forma as adjusted net tangible book value is our pro forma net tangible book value after giving effect to (1) the sale of 2,127,660 shares of common stock in this offering at the public offering price of $2.35 per share, after deducting placement agent fees and estimated offering expenses payable by us, and (2) the issuance by us to the Holders, for no additional consideration, of an aggregate of 750,210 shares of common stock in connection with the closing of this offering pursuant to our obligations under Section 3 of the CSIA. This amount represents an immediate increase in pro forma as adjusted net tangible book value of $0.36 per share to our existing shareholders, and an immediate dilution of $(1.80) per share to new investors purchasing securities in this offering.

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

Public offering price per share		$2.35
Historical net tangible book value per share as of March 31, 2016	$0.37	
Pro forma decrease in net tangible book value per share as of March 31, 2016 attributable to the conversion of Series B convertible preferred stock and issuance of common stock pursuant to the CSIA	$(0.18)	
Pro forma net tangible book value per share as of March 31, 2016	$0.19	
Pro forma as adjusted net tangible book value per share after this offering	$0.55	
Pro forma as adjusted dilution per share to investors purchasing securities in this offering		$(1.80)

The foregoing discussion and table are based on 8,242,528 shares of our common stock outstanding as of March 31, 2016 after giving effect to (1) the conversion of all of our outstanding Series B convertible preferred stock into an aggregate of 1,505,560 shares of common stock on April 8, 2016 and (2) the issuance by us on April 8, 2016 of 853,465 additional shares of common stock pursuant to the CSIA, and assumes:

- the issuance by us of 2,127,660 shares of common stock in this offering at a price of $2.35 per share; and
- the issuance by us of 750,210 shares of common stock in connection with the closing of this offering to the Holders pursuant to our obligations under the CSIA, based on the public offering price of $2.35 per share in this offering;

and excludes, as of March 31, 2016:

- 872,977 shares of common stock issuable upon the exercise of outstanding stock options under our equity incentive plans, with a weighted average exercise price of $7.29 per share;
- 516,223 shares of common stock available for future grants under our equity incentive plans;
- 1,379,649 shares of common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of $9.34 per share; and

- any additional shares that may become issuable pursuant to the operation of the CSIA in connection with a future bona fide equity financing conducted by us at an effective price per share that is less than the offering price per share of common stock and accompanying warrant being sold in this offering.

To the extent that options or warrants outstanding as of March 31, 2016 have been or may be exercised or other shares issued, investors purchasing securities in this offering may experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our shareholders.

DESCRIPTION OF SECURITIES WE ARE OFFERING

We are offering 2,127,660 shares of common stock and warrants to purchase up to 1,063,830 common shares. The common shares and warrants are immediately separable and will be issued separately. The shares of common stock issuable from time to time upon exercise of the warrants, if any, are also being offered pursuant to this prospectus supplement and the accompanying prospectus.

Common Stock

The material terms and provisions of our common shares are described under the caption "Description of Capital Stock" starting on page 9 of the accompanying prospectus.

Warrants

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

Duration and Exercise Price . The warrants offered hereby will entitle the holders thereof to purchase up to an aggregate of 1,063,830 shares of common stock at an initial exercise price of $2.25 per share of common stock. The warrants will be immediately exercisable and will expire on the fifth anniversary of the date of issuance. The warrants will be issued in certificated form only. After the exercise period, holders of the warrants will have no further rights to exercise the warrants.

Exercisability . The warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of our common shares purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder may not exercise any portion of the warrant to the extent that the holder, together with its affiliates and any other person or entity acting as a group, would own more than 4.99% of the outstanding common shares after exercise, except that upon at least 61 days' prior notice from the holder to us, the holder may increase the amount of ownership of outstanding shares after exercising the holder's warrants up to 9.99% of the number of our common shares outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the warrants.

Cashless Exercise. If, at the time a holder exercises its warrant, there is no effective registration statement registering, or the prospectus contained therein is not available for an issuance of the shares underlying the warrant to the holder, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of common shares determined according to a formula set forth in the warrant.

Fundamental Transactions . In the event of any fundamental transaction, as described in the warrants and generally including any merger with or into another entity, sale, lease, license or other disposition of all or substantially all of our assets, tender offer or exchange offer, or reclassification of our common shares, then upon any subsequent exercise of a warrant, the holder will have the right to receive as alternative consideration, for each of our common shares that would have been issuable upon such exercise immediately prior to the occurrence of such fundamental transaction, the number of common shares of the successor or acquiring corporation or of our company, if it is the surviving corporation, and any additional consideration receivable upon or as a result of such transaction by a holder of the number of common shares for which the warrant is exercisable immediately prior to such event. In addition, in the event of a fundamental transaction, we or any successor entity shall purchase such warrants from the holders for an amount of cash equal to the value of the warrant as determined in accordance with the Black Scholes option pricing model described in the warrants.

Transferability. Subject to applicable laws and the restriction on transfer set forth in the warrant, the warrants may be transferred at the option of the holder upon surrender of the warrant to us together with the appropriate instruments of transfer.

Listing. We do not intend to list the warrants on any securities exchange or other trading market.

Right as a Shareholder. Holders of the warrants will not have the rights or privileges of holders of our common shares, including any voting rights, until they exercise their warrants, with exceptions for participation in rights offerings or extraordinary distributions..

Waivers and Amendments. Subject to certain exceptions, any term of the warrant may be amended or waived with our written consent and the written consent of the holder.

PLAN OF DISTRIBUTION

Roth Capital Partners, LLC and Griffin Securities, Inc., which we refer to as the placement agents, have agreed to act as the placement agents in connection with this offering subject to the terms and conditions of a placement agent agreement, dated May 31, 2016. The placement agents may engage selected dealers to assist in the placement of the common shares and warrants. The placement agents are not purchasing or selling any common shares or warrants offered by this prospectus supplement and the accompanying prospectus, nor are they required to arrange the purchase or sale of any specific number or dollar amount of the common shares or warrants, but have agreed to use best efforts to arrange for the sale of all of the common shares and warrants offered hereby. We will enter into securities purchase agreements directly with investors in connection with this offering and we may not sell the entire amount of common shares and warrants offered pursuant to this prospectus supplement and the accompanying prospectus. The combined purchase price for each common share and accompanying warrant has been determined based upon arm's-length negotiations between the purchasers and us.

Commissions and Expenses

We have agreed to pay the placement agents an aggregate cash placement fee equal to 7% of the gross proceeds in this offering.

The following table shows the per common share and warrants and total cash placement agent fees we will pay to the placement agents in connection with the sale of the common shares and warrants offered pursuant to this prospectus supplement and the accompanying prospectus assuming the purchase of all of the common shares and warrants offered hereby:

Per Share and Related Warrants\	$0.1645
Total	$350,000

Because there is no minimum offering amount required as a condition to closing in this offering, the actual total offering commissions, if any, are not presently determinable and may be substantially less than the maximum amount set forth above. We have also agreed to reimburse the placement agents for their out-of-pocket expenses in an aggregate amount equal to $75,000. We have also agreed to pay Roth Capital Partners a tail fee of 7% if any purchaser in this offering purchases additional securities from us within three months of the closing of this offering.

Our obligation to issue and sell common shares and warrants to the purchasers is subject to the conditions set forth in the securities purchase agreements, which may be waived by us at our discretion. A purchaser's obligation to purchase common shares and warrants is subject to the conditions set forth in his or her securities purchase agreement as well, which may also be waived.

We currently anticipate that the sale of the common shares and warrants will be completed on or about June 3, 2016. We estimate the total offering expenses of this offering that will be payable by us, excluding the placement agent fees, will be approximately $100,000, which includes legal and printing costs, various other fees and reimbursement of the placements agents' expenses. At the closing, The Depository Trust Company will credit the common shares to the respective accounts of the investors. We will mail warrants directly to the investors at the respective addresses set forth in their securities purchase agreement with us.

Indemnification

We have agreed to indemnify the placement agents against liabilities under the Securities Act of 1933, as amended. We have also agreed to contribute to payments the placement agents may be required to make in respect of such liabilities.

Electronic Distribution

This prospectus supplement and the accompanying prospectus may be made available in electronic format on websites or through other online services maintained by the placement agents, or by an affiliate. Other than this prospectus supplement and the accompanying prospectus in electronic format, the information on the placement agents' websites and any information contained in any other website maintained by the placement agents is not part of this prospectus supplement and the accompanying prospectus or the registration statement of which this prospectus supplement and the accompanying prospectus form a part, has not been approved and/or endorsed by us or the placement agents, and should not be relied upon by investors.

The foregoing does not purport to be a complete statement of the terms and conditions of the placement agent agreement and securities purchase agreements. A copy of the placement agent agreement and the form of securities purchase agreement with the investors are included as exhibits to our current report on Form 8-K that will be filed with the SEC and incorporated by reference into the Registration Statement of which this prospectus supplement forms a part. See “Where You Can Find More Information” on page S-16.

Regulation M Restrictions

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

- must not engage in any stabilization activity in connection with our securities; and
- must 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 Exchange Act, until it has completed its participation in the distribution.

Other

From time to time, the placement agents and their respective affiliates may in the future provide various investment banking, financial advisory and other services to us and our affiliates for which services they may receive customary fees. In the course of their businesses, the placement agents and their respective affiliates may actively trade our securities or loans for their own account or for the accounts of customers, and, accordingly, the placement agents and their respective affiliates may at any time hold long or short positions in such securities or loans. Except for services provided in connection with this offering, the placement agents have not provided any investment banking or other financial services during the 180-day period preceding the date of this prospectus supplement and we do not expect to retain the placement agents to perform any investment banking or other financial services for at least 90 days after the date of this prospectus supplement.

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. Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., New York, New York, is counsel for the placement agents in connection with this offering.

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 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 supplement. 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 supplement and the accompanying prospectus. Information contained in this prospectus supplement and the accompanying prospectus and information that we file with the SEC in the future and incorporate by reference in this prospectus supplement and the accompanying prospectus will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings (other than information in current reports 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) we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, after the date of the prospectus supplement and prior to the termination of the offering of the securities covered by this prospectus supplement:

- our annual report on Form 10-K for the year ended December 31, 2015, filed with the SEC on March 30, 2016;
- our quarterly report on Form 10-Q for the quarter ended March 31, 2016, filed with the SEC on May 12, 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.

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.