Table of Contents

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

As confidentially submitted to the Securities and Exchange Commission on March 29, 2019.

This draft registration statement has not been publicly filed with the Securities and Exchange Commission and all information herein remains strictly confidential.

Registration Statement No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-1

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

PHASEBIO PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**2834**	**03-0375697**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

1 Great Valley Parkway, Suite 30
Malvern, Pennsylvania 19355
(610) 981-6500
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Jonathan P. Mow
Chief Executive Officer
PhaseBio Pharmaceuticals, Inc.
11260 El Camino Real,
Suite 100
San Diego, CA 92130
(610) 981-6500
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Christian E. Plaza
Darren K. DeStefano
Madison A. Jones
Cooley LLP
11951 Freedom Drive
Reston, Virginia 20190
(703) 456-8000

Edwin M. O'Connor
Seo Salimi
Goodwin Procter LLP
620 Eighth Avenue
New York, New York 10018
(212) 813-8800

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

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

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

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

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

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

Large Accelerated Filer ☐ Accelerated Filer ☐ Non-accelerated Filer ☒ Smaller Reporting Company ☒
Emerging Growth Company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☒

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	**Proposed Maximum Aggregate Offering Price(1)(2)**	**Amount of Registration Fee**
Common stock, $0.001 par value per share	$	$

(1) In accordance with Rule 457(o) under the Securities Act of 1933, as amended, the number of shares being registered and the proposed maximum offering price per share are not included in this table.
(2) Estimated solely for purposes of computing the amount of the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended. Includes the aggregate offering price of shares that the underwriters have the option to purchase to cover over-allotments, if any.

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

Table of Contents

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

SUBJECT TO COMPLETION, DATED , 2019

PRELIMINARY PROSPECTUS

Shares

Common Stock

We are offering shares of our common stock. Our common stock is listed on the Nasdaq Global Market under the symbol "PHAS." The last reported sale price of our common stock on the Nasdaq Global Market on March 28, 2019 was $8.66 per share. The final public offering price will be determined through negotiation between us and the lead underwriters in the offering and the recent market price used throughout the prospectus may not be indicative of the actual offering price.

We have granted the underwriters an option to purchase up to an additional shares of common stock.

Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page 9 as well as in the documents incorporated by reference.

We are an "emerging growth company" as defined under the U.S. federal securities laws and, as such, may elect to comply with certain reduced public company reporting requirements for this and future filings.

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

	Per Share	Total
Public offering price	$	$
Underwriting discounts and commissions(1)	$	$
Proceeds to PhaseBio Pharmaceuticals, Inc. (before expenses)	$	$

(1) We refer you to "Underwriting" beginning on page 32 for additional information regarding underwriting compensation.

The underwriters expect to deliver the shares to purchasers against payment in New York, New York on or about , 2019 through the book-entry facilities of The Depositary Trust Company.

Citigroup **Cowen** **Stifel**

Needham & Company

, 2019

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

You should rely only on the information contained in this prospectus and any free writing prospectus prepared by or on behalf of us or to which we have referred you. We have not authorized anyone to provide you with different information, and we take no responsibility for any other information others may give you. We are not, and the underwriters are not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained in this prospectus is accurate as of any date other than the date on the front of this prospectus.

TABLE OF CONTENTS

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

This prospectus contains trade names, trademarks and service marks of others, which are the property of their respective owners. Solely for convenience, trademarks and trade names referred to in this prospectus may appear without the ® or TM symbols.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including the information incorporated by reference herein, especially the matters discussed in the information set forth under the section titled "Risk Factors" included elsewhere in this prospectus and in the section titled "Risk Factors" and our audited financial statements and notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2018, which is incorporated by reference herein. Unless the context otherwise requires, we use the terms "PhaseBio," "company," "our," "us" and "we" in this prospectus to refer to PhaseBio Pharmaceuticals, Inc.

Overview

We are a clinical-stage biopharmaceutical company focused on the development and commercialization of novel therapies to treat orphan diseases, with an initial focus on cardiopulmonary indications. Our lead product candidate, PB2452, is a novel reversal agent for the antiplatelet drug ticagrelor, which we are developing for the treatment of patients on ticagrelor who are experiencing a major bleeding event or those who require urgent surgery. We recently completed a Phase 1 clinical trial of PB2452 in healthy subjects and intend to initiate a Phase 2a clinical trial in healthy older subjects in the first half of 2019. Our second product candidate, PB1046, is a once-weekly fusion protein currently in a Phase 2b clinical trial for the treatment of pulmonary arterial hypertension, or PAH. PB1046 utilizes our proprietary half-life extending elastin-like polypeptide, or ELP, technology, which also serves as the engine for our preclinical pipeline. We retain worldwide rights to all of our product candidates.

PB2452 is a novel recombinant human monoclonal antibody antigen-binding fragment, or Fab fragment, designed to reverse the antiplatelet activity of ticagrelor. Ticagrelor is an antiplatelet therapy widely prescribed to reduce the rates of death, heart attack and stroke in patients with acute coronary syndrome, or ACS, or who have previously experienced a heart attack. The American College of Cardiology, American Heart Association and European Society of Cardiology guidelines recognize ticagrelor as the preferred antiplatelet therapy for ACS. In 2018, ticagrelor, currently marketed by AstraZeneca plc, or AstraZeneca, under the brand names Brilinta and Brilique, had worldwide sales of $1.3 billion, an increase of 22% over 2017 sales. In the fourth quarter of 2018, ticagrelor had worldwide sales of $376 million, an increase of 26% over sales in the fourth quarter of 2017. Ticagrelor binds and inhibits the platelet P2Y12 receptor to prevent platelets from forming obstructive blood clots, which could block blood flow to critical organs in these patients, causing heart attacks or strokes. Due to ticagrelor's antiplatelet activity, patients on ticagrelor have an elevated risk of spontaneous bleeding. In addition, patients on ticagrelor who need urgent surgery cannot wait the recommended five days for ticagrelor's effect to dissipate and are at increased risk of major bleeding during and after surgery. There are currently no known reversal agents approved or in clinical development for ticagrelor or any of the other antiplatelet drugs. In our Phase 1 clinical trial, PB2452 achieved immediate and sustained reversal of ticagrelor's antiplatelet activity, with potential customizable duration of reversal based on the dosing regimen, which we believe has the potential to bring life-saving therapeutic benefit to these patients by increasing the safety of ticagrelor. We believe the availability of a reversal agent could expand ticagrelor's use by mitigating concerns regarding bleeding risk and uniquely position ticagrelor as the only oral antiplatelet drug with a reversal agent.

We recently completed a Phase 1 dose escalation clinical trial of PB2452 in healthy subjects ages 18 to 50 who had been pre-dosed with ticagrelor. In this trial, we observed immediate and complete reversal of ticagrelor's antiplatelet activity within five minutes following initiation of infusion, and sustained reversal for over 20 hours in dosing cohorts in which we administered PB2452 over an extended infusion period.

Based on our observations in our Phase 1 trial, duration of reversal may be controlled by duration of the infusion, which may allow for customization based on patient needs. There were no PB2452-related adverse

events, or AEs, or serious adverse events, or SAEs, in any of the dose cohorts. We believe that the results of the Phase 1 trial support the continued development of PB2452 to treat ticagrelor patients who are experiencing a major bleeding event or those who require urgent surgery.

We intend to initiate a Phase 2a clinical trial of PB2452 in generally healthy older and elderly subjects in the first half of 2019 in order to evaluate safety and efficacy of the potentially therapeutic doses and dosing regimens from the Phase 1 trial in this population. Older adults exhibit more variability in drug response to ticagrelor and higher levels of baseline platelet reactivity compared to younger subjects, and they resemble the patient population most likely to be treated with ticagrelor and potentially benefit from PB2452, if approved. We intend to design the Phase 2a trial to identify the most appropriate dose and dosing regimen of PB2452 for our planned Phase 2b and Phase 3 clinical trials.

In mid-2019, we intend to request a meeting with the U.S. Food and Drug Administration, or the FDA, to review the clinical profile of and confirm the regulatory pathway for PB2452. Subject to discussions with the FDA, we intend to initiate a multi-center Phase 2b clinical trial of PB2452 in healthy older adults in the second half of 2019 and an international, multi-center Phase 3 clinical trial in patients on ticagrelor who are experiencing a major bleeding event or require urgent surgery in 2020. The FDA's accelerated approval regulations allow drugs that are being developed to treat an unmet medical need for serious conditions to be approved substantially based on evidence of an effect on a surrogate biomarker endpoint that is considered reasonably likely to predict clinical benefit, rather than a clinical endpoint such as survival or irreversible morbidity. If considered appropriate by the FDA, we intend to pursue accelerated approval, which would allow us to submit a biologics license application, or BLA, prior to completion of the Phase 3 clinical trial based on biomarker data from an initial subset of the Phase 3 patients. If we were to receive accelerated approval, the completion of the Phase 3 trial would be a post-marketing commitment.

PB1046 is being developed as a once-weekly, novel treatment for PAH, a progressive, life-threatening, orphan disease caused by vasoconstriction and structural deterioration of the pulmonary arteries, which can lead to heart failure and, eventually, death. PB1046 is a subcutaneously-injected, sustained release analogue of the native human peptide vasoactive intestinal peptide, or VIP. VIP is a neurohormone that relaxes the muscles surrounding blood vessels, causing them to dilate, which results in improved blood flow. In contrast to the currently approved therapies for PAH, which only target vasodilation, we believe that VIP also suppresses the adverse remodeling of blood vessels and increases cardiac contractility and relaxation. We believe that PB1046 has the potential to be disease-modifying and complementary to current standard of care therapies for PAH.

We have completed two clinical trials of subcutaneously-injected PB1046 in subjects with cardiovascular diseases. In these trials, PB1046 was observed to be well tolerated, with no drug-related SAEs. In both trials, we observed that patients who received PB1046 experienced statistically significant reductions in blood pressure that were sustained for at least one week, with no reported episodes of symptomatic hypotension. We have also completed enrollment of an exploratory Phase 1b/2a clinical trial to evaluate the effects of PB1046 on pulmonary arterial pressure in PAH patients with a CardioMEMS device, an implanted hemodynamic monitor that continuously reports pulmonary arterial pressure and cardiac function. In preliminary results from this trial, we have observed reductions in pulmonary arterial pressure and increases in cardiac output, which we believe are consistent with potential beneficial effects of PB1046. We have begun dosing patients in a randomized, double-blinded, parallel group Phase 2b clinical trial in approximately 60 PAH patients to assess the safety, tolerability and efficacy of PB1046. This clinical trial will evaluate the effects of PB1046 on pulmonary arterial pressure and exercise tolerance, including the distance the patient can walk in six minutes, which is an important clinical endpoint that the FDA has previously used as the basis for approval of other PAH drugs. We expect to report results from this trial in 2020.

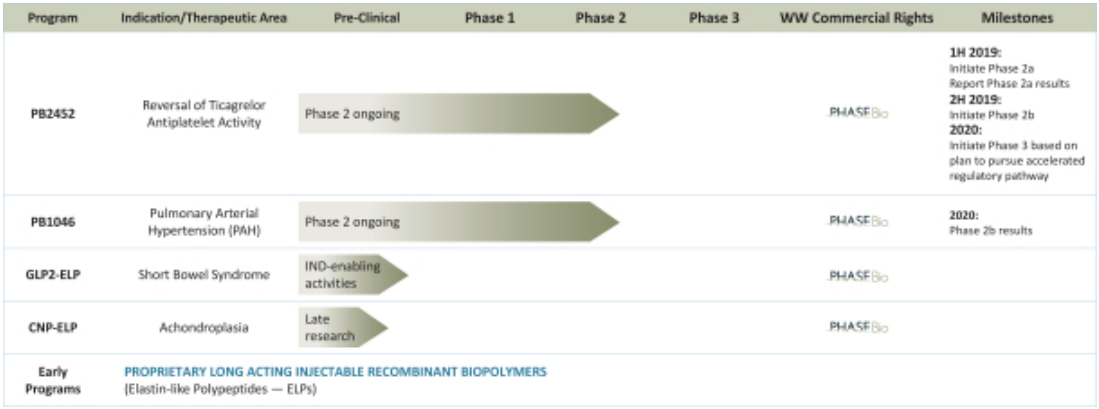
PB1046 and our preclinical product candidates are based on our proprietary ELP technology. Our ELP technology extends the circulating half-life of proteins and peptides and also provides a sustained-release

mechanism, resulting in exposure of active molecules for periods of a week or longer from a single subcutaneous injection. We believe that our ELP technology enhances solubility, stability and bioavailability, provides extended drug exposure and creates product candidates that are straightforward to manufacture and administer. Our strategy is to apply our ELP technology to proteins and peptides with well-characterized therapeutic activities but suboptimal half-lives to improve their pharmacokinetics, enable their use as pharmaceutical products and allow for more convenient dosing regimens. To date, we have not observed any drug-related SAEs in any of the over 500 subjects in clinical trials of our ELP product candidates.

We have an experienced management team that includes individuals with experience in translational research, orphan and cardiopulmonary drug discovery, development and commercialization. We are led by our Chief Executive Officer, Jonathan P. Mow, who brings more than 25 years of experience in biotechnology management, including previous executive experience at Amylin Pharmaceuticals, Corus Pharma, PathoGenesis and Bristol-Myers Squibb.

Pipeline

Our clinical-stage and pre-clinical pipeline is set forth below:



Risks Associated with Our Business

Our business is subject to a number of risks of which you should be aware before making a decision to invest in our common stock. These risks are more fully described in the sections titled “Risk Factors” included elsewhere in this prospectus and in our Annual Report on Form 10-K for the year ended December 31, 2018, which is incorporated by reference herein, including the following:

- We have incurred significant losses since our inception. We expect to incur losses over the next several years and may never achieve or maintain profitability.
- Even if this offering is successful, we will need substantial additional funding to meet our financial obligations and to pursue our business objectives. If we are unable to raise capital when needed, we could be forced to curtail our planned operations and the pursuit of our growth strategy.
- We have only two clinical-stage product candidates, PB2452, a ticagrelor reversal agent, and PB1046 for the treatment of PAH. If we are unable to successfully develop, receive regulatory approval for and commercialize our product candidates for these or any other indications, or successfully develop any other product candidates, or experience significant delays in doing so, our business will be harmed.
- If considered appropriate by the FDA, we intend to seek regulatory approval of PB2452 in the United States through an accelerated approval process with the FDA. If we are not successful with this process, the development or commercialization of PB2452 could be delayed, abandoned or significantly more costly.

- ELP is a novel technology, which makes it difficult to predict the time, risks and cost of development and of subsequently obtaining regulatory approval of our ELP product candidates.
- Market acceptance of PB2452, if approved, will depend heavily on the continued market acceptance and use of ticagrelor.
- We contract with third parties for the manufacture of PB2452 and PB1046 for preclinical and clinical testing and expect to continue to do so for commercialization. This reliance on third parties increases the risk that we will not have sufficient quantities of our product candidates or such quantities at an acceptable cost, which could delay, prevent or impair our development or commercialization efforts.
- If we are unable to obtain or protect intellectual property rights related to any of our product candidates, we may not be able to compete effectively in our market.
- If we fail to comply with our obligations in our current and future intellectual property licenses and funding arrangements with third parties, we could lose rights that are important to our business.

Corporate Information

We were incorporated under the laws of the State of Delaware in January 2002. Our principal executive offices are located at 1 Great Valley Parkway, Suite 30, Malvern, Pennsylvania 19355. Our telephone number is (610) 981-6500. Our website address is *www.phasebio.com*. We have included our website address in this prospectus solely as an inactive textual reference.

Implications of Being an Emerging Growth Company and Smaller Reporting Company

We qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. An emerging growth company may take advantage of specified reduced reporting and other burdens that are otherwise applicable generally to public companies. These provisions include:

- an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002;
- an exemption from implementation of new or revised financial accounting standards until they would apply to private companies and from compliance with any new requirements adopted by the Public Company Accounting Oversight Board requiring mandatory audit firm rotation;
- reduced disclosure obligations regarding executive compensation arrangements; and
- no requirement to seek nonbinding advisory votes on executive compensation or golden parachute arrangements.

We may take advantage of some or all these provisions until we are no longer an emerging growth company. We will remain an emerging growth company until the earlier to occur of (1) the last day of the fiscal year (a) following the fifth anniversary of the closing of our initial public offering in October 2018, (b) in which we have total annual gross revenues of at least $1.07 billion or (c) in which we are deemed to be a "large accelerated filer," under the rules of the U.S. Securities and Exchange Commission which means the market value of our equity securities that is held by non-affiliates exceeds $700 million as of the prior June 30th, and (2) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period.

Finally, we are a "smaller reporting company" (and may continue to qualify as such even after we no longer qualify as an emerging growth company) and accordingly may provide less public disclosure than larger public companies, including the inclusion of only two years of audited financial statements and only two years of related selected financial data and management's discussion and analysis of financial condition and results of operations disclosure. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

THE OFFERING

Common stock to be offered	shares
Common stock to be outstanding after this offering	shares
Option to purchase additional shares	shares
Use of proceeds	We estimate that the net proceeds from this offering will be approximately $ million (or approximately $ million if the underwriters exercise in full their option to purchase up to additional shares of common stock), based on an assumed offering price of $ per share, which was the last reported sales price of our common stock on the Nasdaq Global Market on , 2019, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering, together with our existing cash and cash equivalents, to advance PB2452, advance PB1046, fund the development of our ELP technology and preclinical programs and for general working capital and other general corporate purposes. These expectations are subject to change. See "Use of Proceeds" for additional information.
Risk factors	See "Risk Factors" and the other information included in this prospectus and incorporated by reference herein for a discussion of factors you should carefully consider before deciding to invest in our common stock.
Nasdaq Global Market symbol	"PHAS"

The number of shares of our common stock that will be outstanding after this offering is based on 24,498,275 shares of common stock outstanding as of December 31, 2018, and excludes:

- 1,545,403 shares of common stock issuable upon the exercise of options outstanding as of December 31, 2018, at a weighted-average exercise price of $2.48 per share;
- 75,597 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2018, at a weighted-average exercise price of $9.66 per share;
- 37,606 shares of common stock issuable upon the exercise of warrants issued subsequent to December 31, 2018, with an exercise price of $4.73 per share;
- 961,500 shares of common stock issuable upon the exercise of options issued subsequent to December 31, 2018, with a weighted-average exercise price of $3.17 per share;
- 1,432,746 shares of common stock reserved for future issuance under our 2018 Equity Incentive Plan; and

- 440,983 shares of common stock reserved for future issuance pursuant to our 2018 Employee Stock Purchase Plan.

Unless otherwise indicated, this prospectus reflects and assumes the following:

- no issuances or exercises of any other outstanding options or warrants after December 31, 2018; and
- no exercise by the underwriters of their option to purchase up to additional shares of our common stock.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

SUMMARY FINANCIAL DATA

You should read the following summary financial data together with the "Selected Financial Data" section of this prospectus and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the related notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2018, which is incorporated by reference herein. We have derived the statements of operations data for the years ended December 31, 2017 and 2018 and the balance sheet data as of December 31, 2018 from our audited financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018, which is incorporated by reference herein. Our historical results are not necessarily indicative of the results that should be expected in the future.

	Year Ended December 31,	
	2017	2018
	(in thousands, except share and per share data)	
Statement of Operations Data:		
Grant revenues	$ —	$ 668
Operating expenses:		
Research and development	$ 6,210	$ 15,455
General and administrative	2,328	4,857
Total operating expenses	8,538	20,312
Loss from operations	(8,538)	(19,644)
Other income (expense):		
Interest income	52	387
Interest expense	(2,723)	(3,924)
Change in fair value of warrant liability	1,019	11
Change in fair value of derivative liability	(57)	(676)
Total other income (expense)	(1,709)	(4,202)
Net loss	$ (10,247)	$ (23,846)
Net loss per common share, basic and diluted	$ (13.78)	$ (4.49)
Weighted-average common shares outstanding, basic and diluted	743,470	5,305,062

The following table presents our summary balance sheet data as of December 31, 2018:

- on an actual basis; and
- on an as adjusted basis to give effect to our issuance and sale of shares of common stock in this offering at an assumed public offering price of $ per share, which was the last reported sales price of our common stock on the Nasdaq Global Market on , 2019.

	As of December 31, 2018	
	Actual	As Adjusted
	(in thousands)	
Balance Sheet Data:		
Cash and cash equivalents	$ 61,031	$
Working capital(1)	58,051	
Total assets	62,628	
Total stockholders' equity	50,927	

(1) We define working capital as total current assets less total current liabilities. See our audited financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018, which are incorporated by reference herein, for further details regarding our current assets and current liabilities.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

Each $1.00 increase (decrease) in the assumed public offering price of $ per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on , 2019, would increase (decrease) the as adjusted amount of each of cash and cash equivalents, working capital, total assets, and total stockholders' equity by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase (decrease) of 1.0 million shares in the number of shares offered by us at the assumed public offering price would increase (decrease) each of cash and cash equivalents, working capital, total assets, and total stockholders' equity by $ million.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below, as well as the risks and uncertainties set forth under the heading "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018, which is incorporated by reference herein, and all of the other information in this prospectus and the documents incorporated by reference herein before deciding whether to purchase shares of our common stock. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties that we are unaware of, or that we currently believe are not material, may also become important factors that affect us. If any of the following risks are realized, our business, financial condition, results of operations and prospects could be materially and adversely affected. In that event, the price of our common stock could decline, and you could lose part or all of your investment.

Risks Related to This Offering and Ownership of our Common Stock

If you purchase common shares in this offering, you will suffer immediate dilution of your investment.

The assumed public offering price of our common stock is substantially higher than the net tangible book value per share. Therefore, if you purchase common shares in this offering, you will pay a price per share that substantially exceeds our net tangible book value per share after this offering. Based on an assumed public offering price of $ per share, which was the last reported sale price of our common shares on the Nasdaq Global Market on , 2019, you will experience immediate dilution of $ per share, representing the difference between our as adjusted net tangible book value per share after giving effect to this offering and the assumed public offering price.

In addition, as of December 31, 2018, we had outstanding stock options to purchase an aggregate of 1,545,403 shares of common stock at a weighted-average exercise price of $2.48 per share and outstanding warrants to purchase an aggregate of 75,597 shares of common stock at a weighted-average exercise price of $9.66 per share. In addition, we issued stock options to purchase an additional 961,500 shares of common stock, at a weighted-average exercise price of $3.17 per share, and warrants to purchase an aggregate of 37,606 shares of common stock at an exercise price of $4.73 per share, subsequent to December 31, 2018. To the extent these outstanding options or warrants are exercised, there will be further dilution to investors in this offering.

A significant portion of our total outstanding shares are restricted from immediate resale but may be sold into the market in the near future. This could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market could occur at any time. If our stockholders sell, or the market perceives that our stockholders intend to sell, substantial amounts of our common stock in the public market, the market price of our common stock could decline significantly.

Upon the closing of this offering, based on the number of shares outstanding as of December 31, 2018, we will have outstanding shares of common stock. Of these shares, shares, including the shares sold in this offering and the approximately 9.9 million shares sold in our initial public offering in October 2018 will be freely tradable. Approximately million of the remaining shares of common stock will become available for sale in the public market beginning in April 2019 following the scheduled expiration of lock-up agreements between some of our stockholders and the underwriters for our initial public offering. Citigroup Global Markets Inc. and Cowen and Company, LLC may release these stockholders from their lock-up agreements with the underwriters at any time and without notice, which would allow for earlier sales of shares in the public market. The remaining approximately million shares of common stock will become available for sale in the public market beginning 60 days following the completion of this offering upon the scheduled expiration of the lock-up agreements between some of our stockholders and the underwriters for this offering. Citigroup Global Markets Inc. and Cowen and Company, LLC may release these stockholders from their lock-up agreements with the underwriters at any time and without notice, which would allow for earlier sales of shares in the public market.

In addition, we have filed registration statements on Form S-8 registering the issuance of common stock subject to options or other equity awards issued or reserved for future issuance under our equity incentive plans. Shares registered under these registration statements on Form S-8 will be available for sale in the public market subject to vesting arrangements and exercise of options, the lock-up agreements described above and the restrictions of Rule 144 in the case of our affiliates.

Additionally, the holders of approximately 13.9 million shares of our common stock, or their transferees, will have rights, subject to some conditions, to require us to file one or more registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. If we were to register the resale of these shares, they could be freely sold in the public market. If these additional shares are sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline.

We will have broad discretion in the use of our existing cash and cash equivalents, including the proceeds from this offering, and may invest or spend our cash in ways with which you do not agree and in ways that may not increase the value of your investment.

We will have broad discretion over the use of our cash and cash equivalents, including the proceeds from this offering. You may not agree with our decisions, and our use of cash may not yield any return on your investment. We expect to use the net proceeds from this offering, together with our existing cash and cash equivalents, to advance PB2452, advance PB1046, fund development of our ELP technology and preclinical programs and for working capital and general corporate purposes. Our failure to apply the net proceeds from this offering effectively could compromise our ability to pursue our growth strategy and we might not be able to yield a significant return, if any, on our investment of these net proceeds. You will not have the opportunity to influence our decisions on how to use our net proceeds from this offering.

An active trading market for our common stock may not be sustained.

Our shares of common stock began trading on the Nasdaq Global Market on October 18, 2018. Given the limited trading history of our common stock, there is a risk that an active trading market for our shares will not be sustained, which could put downward pressure on the market price of our common stock and thereby affect the ability of our stockholders to sell their shares.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS AND INDUSTRY AND MARKET DATA

This prospectus contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, which are subject to the "safe harbor" created by those sections. These forward-looking statements involve substantial risks and uncertainties. In some cases, you can identify forward-looking statements by the words "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "might," "objective," "ongoing," "plan," "predict," "project," "potential," "should," "will," or "would," or the negative of these terms, or other comparable terminology intended to identify statements about the future. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements. In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. Forward-looking statements include statements regarding:

- the timing, progress and results of our clinical trials of PB2452, PB1046 and any other product candidates, including statements regarding the timing of initiation and completion of studies or trials and related preparatory work, the period during which the results of the trials will become available and our research and development programs;
- the timing of any submission of filings for regulatory approval of PB2452, PB1046 and any other product candidates and our ability to obtain and maintain regulatory approvals for PB2452 and PB1046 for any indication;
- our expectations regarding the size of the patient populations, market acceptance and opportunity for and clinical utility of our product candidates, if approved for commercial use;
- our manufacturing capabilities and strategy, including the scalability and commercial viability of our manufacturing methods and processes and our ability to maintain agreements with third parties;
- our expectations regarding the scope of any approved indication for PB2452 and PB1046;
- our ability to successfully commercialize our product candidates;
- our ability to leverage our proprietary ELP technology to identify and develop future product candidates;
- our estimates regarding future revenue, expenses and needs for additional financing; the impact of laws and regulations;
- our estimates of our expenses, ongoing losses, future revenue, capital requirements and our needs for or ability to obtain additional funding;
- our ability to establish or maintain collaborations or strategic relationships;
- our ability to identify, recruit and retain key personnel;
- our ability to protect and enforce our intellectual property position for our product candidates, and the scope of such protection;
- our financial performance;
- our expected use of proceeds from this offering;

- our competitive position and the development of and projections relating to our competitors or our industry;
- the impact of laws and regulations; and
- our expectations regarding the time during which we will be an emerging growth company under the JOBS Act.

We caution you that the foregoing list may not contain all of the forward-looking statements made in this prospectus.

You should refer to the "Risk Factors" section of this prospectus, and the "Risk Factors" section of our Annual Report on Form 10-K for the year ended December 31, 2018, which is incorporated by reference herein, for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. We have based the forward-looking statements contained in this prospectus primarily on our current expectations and projections about future events and trends that we believe may affect our business, financial condition, results of operations and prospects. While we believe that our internal assumptions are reasonable, no independent source has verified such assumptions, as a result we cannot assure you that the forward-looking statements in this prospectus will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame or at all. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

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

We obtained the industry, statistical and market data in this prospectus and in the documents incorporated by reference herein from our own internal estimates and research as well as from industry and general publications and research, surveys and studies conducted by third parties. All of the market data used in this prospectus and in the documents incorporated by reference herein involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such data. While we believe that each of these studies and publications is reliable, the industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of important factors, including those described in the section titled "Risk Factors" in this prospectus and in the section titled "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018, which is incorporated by reference herein. These and other factors could cause results to differ materially from those expressed in the estimates made by third parties and by us.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

USE OF PROCEEDS

We estimate that the net proceeds from our issuance and sale of shares of our common stock in this offering will be approximately $ million (or $million if the underwriters exercise in full their option to purchase additional shares), assuming a public offering price of $ per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on , 2019, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Each $1.00 increase (decrease) in the assumed public offering price of $ per share would increase (decrease) the net proceeds to us from this offering by approximately $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each increase (decrease) of 1.0 million in the number of shares we are offering would increase (decrease) the net proceeds to us from this offering, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, by approximately $ million, assuming the assumed public offering price stays the same.

As of December 31, 2018, we had $61.0 million in cash and cash equivalents. We intend to use the net proceeds from this offering, together with our existing cash and cash equivalents, as follows:

- approximately $ million to $ million to advance PB2452;
- approximately $ million to $ million to advance PB1046;
- approximately $ million to $ million to fund development of our ELP technology and preclinical programs; and
- the remainder for working capital and other general corporate purposes.

We believe that the net proceeds of this offering, together with our existing cash and cash equivalents, will enable us to fund our operations into . Based on our current operational plans and assumptions, we expect our cash and cash equivalents, together with the net proceeds from this offering, will be sufficient to . We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we expect.

This expected use of net proceeds from this offering and our existing cash and cash equivalents represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. Predicting the costs necessary to develop product candidates can be difficult. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development, the status of and results from clinical trials, as well as any collaborations that we may enter into with third parties for our product candidates, and any unforeseen cash needs.

Our management will have broad discretion in the application of the net proceeds from this offering, and investors will be relying on the judgment of our management regarding the application of those net proceeds. The timing and amount of our actual expenditures will be based on many factors, including cash flows from operations and the anticipated growth of our business. Pending these uses, we plan to invest these net proceeds in short-term, interest bearing investments, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the United States.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

DIVIDEND POLICY

We have never declared or paid, and do not anticipate declaring or paying, in the foreseeable future, any cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business. Any future determination related to our dividend policy will be made at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our board of directors may deem relevant.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

CAPITALIZATION

The following table sets forth our cash and cash equivalents and our capitalization as of December 31, 2018:

- on an actual basis; and
- on an as adjusted basis to give effect to our issuance and sale of shares of common stock in this offering at an assumed public offering price of $ per share, which was the last reported sales price of our common stock on the Nasdaq Global Market on , 2019, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this table together with "Selected Financial Data" elsewhere in this prospectus and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the related notes included in our Annual Report on Form 10-K for the year ended December 31, 2018, which is incorporated by reference herein.

	As of December 31, 2018	
	Actual	As Adjusted
	(in thousands, except share and per share data)	
(in thousands, except share and per share data)		
Cash and cash equivalents	$ 61,031	$
Long-term debt	7,500	
Stockholders' equity:		
Common stock, $0.001 par value; 200,000,000 shares authorized, actual and as adjusted; 24,498,275 shares outstanding, actual; shares outstanding, as adjusted	25	
Treasury stock, at cost, 29,967 shares	(24)	
Additional paid-in capital	173,837	
Accumulated deficit	(122,911)	
Total stockholders' equity	$ 50,927	$
Total capitalization	$ 58,427	$

The as adjusted capitalization information discussed above is illustrative only and will change based on the actual public offering price. Each $1.00 increase (decrease) in the assumed public offering price of $ per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on , 2019, would increase (decrease) the as adjusted amount of each of cash and cash equivalents, additional paid-in capital, total stockholders' equity and total capitalization by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. A 1.0 million share increase in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase the as adjusted amount of each of cash and cash equivalents, additional paid-in capital, total stockholders' equity and total capitalization by $ million, assuming the assumed public offering price of $ per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on , 2019, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The outstanding share information in the table above excludes:

- 1,545,403 shares of common stock issuable upon the exercise of options outstanding as of December 31, 2018, at a weighted-average exercise price of $2.48 per share;
- 75,597 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2018, at a weighted-average exercise price of $9.66 per share;

- 37,606 shares of common stock issuable upon the exercise of warrants issued subsequent to December 31, 2018, with an exercise price of $4.73 per share;
- 961,500 shares of common stock issuable upon the exercise of options issued subsequent to December 31, 2018, with a weighted-average exercise price of $3.17 per share;
- 1,432,746 shares of common stock reserved for future issuance under our 2018 Equity Incentive Plan; and
- 196,000 shares of common stock reserved for future issuance pursuant to our 2018 Employee Stock Purchase Plan.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

DILUTION

If you invest in our common stock, your ownership interest will be diluted to the extent of the difference between the public offering price per share of our common stock and the as adjusted net tangible book value per share of our common stock immediately after the closing of this offering.

Our historical net tangible book value as of December 31, 2018 was $50.9 million, or $2.08 per share of common stock.

After giving effect to the sale of shares of common stock in this offering at an assumed public offering price of $ per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on , 2019, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of December 31, 2018 would be $ million, or $ per share of common stock. This amount represents an immediate increase in as adjusted net tangible book value of $ per share to our existing stockholders and an immediate dilution of $ per share to investors participating in this offering. We determine dilution per share to investors participating in this offering by subtracting as adjusted net tangible book value per share after this offering from the assumed public offering price per share paid by investors participating in this offering.

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

Assumed public offering price per share		$
Historical net tangible book value per share as of December 31, 2018	$2.08	
Increase in as adjusted net tangible book value per share attributable to this offering		
As adjusted net tangible book value per share after giving effect to this offering		
Dilution per share to new investors in this offering		$

The as adjusted dilution information discussed above is illustrative only and will change based on the actual public offering price. Each $1.00 increase (decrease) in the assumed public offering price of $ per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on , 2019, would increase (decrease) the as adjusted net tangible book value per share by $ per share and the dilution per share to investors participating in this offering by $ per share, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. A 1.0 million share increase in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase the as adjusted net tangible book value per share by $ and decrease the dilution per share to new investors participating in this offering by $, assuming the assumed public offering price of $ per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on , 2019, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. A 1.0 million share decrease in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease the as adjusted net tangible book value per share after this offering by $ and increase the dilution per share to new investors participating in this offering by $, assuming the assumed public offering price of $ per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on , 2019, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise their option in full to purchase an additional shares of our common stock in this offering, the as adjusted net tangible book value of our common stock would be $ per share, the increase in net tangible book value per share would be $ per share and the dilution per share to new investors would be $ per share, in each case assuming a public offering price of $ per share, which was the last reported sale price of our common stock on the Nasdaq Global Market on , 2019.

The outstanding share information used in the computations above excludes:

- 1,545,403 shares of common stock issuable upon the exercise of options outstanding as of December 31, 2018, at a weighted-average exercise price of $2.48 per share;
- 75,597 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2018, at a weighted-average exercise price of $9.66 per share;
- 37,606 shares of common stock issuable upon the exercise of warrants issued subsequent to December 31, 2018, with an exercise price of $4.73 per share;
- 961,500 shares of common stock issuable upon the exercise of options issued subsequent to December 31, 2018, with a weighted-average exercise price of $3.17 per share;
- 1,432,746 shares of common stock reserved for future issuance under our 2018 Equity Incentive Plan; and
- 196,000 shares of common stock reserved for future issuance pursuant to our 2018 Employee Stock Purchase Plan.

To the extent that outstanding options or warrants are exercised, new options or other securities are issued under our equity incentive plans, or we issue additional shares of common stock in the future, there will be further dilution to investors participating in this offering. In addition, we may choose to raise additional capital because of market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. If we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

SELECTED FINANCIAL DATA

You should read the following selected financial data together with our financial statements and the related notes thereto and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section included in our Annual Report on Form 10-K for the year ended December 31, 2018, which is incorporated by reference herein. We have derived the statements of operations data for the years ended December 31, 2017 and 2018 and the balance sheet data as of December 31, 2017 and 2018 from our audited financial statements appearing in our Annual Report on Form 10-K for the year ended December 31, 2018, which is incorporated by reference herein. Our historical results are not necessarily indicative of the results that should be expected in the future.

	Year Ended December 31,	
	2017	2018
	(in thousands)	
Statement of Operations Data:		
Grant revenues	$ —	$ 668
Operating expenses:		
Research and development	$ 6,210	$ 15,455
General and administrative	2,328	4,857
Total operating expenses	8,538	20,312
Loss from operations	(8,538)	(19,644)
Other income (expense):		
Interest income	52	387
Interest expense	(2,723)	(3,924)
Change in fair value of warrant liability	1,019	11
Change in fair value of derivative liability	(57)	(676)
Total other income (expense)	(1,709)	(4,202)
Net loss	$ (10,247)	$ (23,846)
Net loss per common share, basic and diluted	$ (13.78)	$ (4.49)
Weighted-average common shares outstanding, basic and diluted	743,470	5,305,062

	As of December 31,	
	2017	2018
	(in thousands)	
Balance Sheet Data:		
Cash and cash equivalents	$ 13,406	$ 61,031
Working capital (deficit)(1)	(3,829)	58,051
Total assets	14,099	63,026
Convertible promissory notes, net of discount	12,095	—
Long-term debt, including current portion	3,386	7,500
Redeemable convertible preferred stock	89,634	—
Total stockholders' (deficit) equity	(97,416)	50,927

(1) We define working capital (deficit) as total current assets less total current liabilities. See our financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018, which are incorporated by reference herein, for further details regarding our current assets and current liabilities.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

PRINCIPAL STOCKHOLDERS

The following table sets forth the beneficial ownership of our common stock as of March 15, 2019 and as adjusted to reflect the sale of common stock offered by us in this offering, for:

- each person, or group of affiliated persons, who is known by us to beneficially own more than 5% of our common stock;
- our chief executive officer and each of our two next most highly compensated executive officers for 2018, or our named executive officers;
- each of our directors; and
- all of our executive officers and directors as a group.

The percentage ownership information shown in the table prior to this offering is based upon 24,498,425 shares of common stock outstanding as of March 15, 2019. The percentage ownership information shown in the table after this offering is based upon shares of common stock outstanding as of March 15, 2019, assuming the sale of shares of common stock by us in the offering and no exercise of the underwriters' option to purchase additional shares.

We have determined beneficial ownership in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. In addition, the rules include shares of common stock issuable pursuant to the exercise of stock options or warrants that are either immediately exercisable or exercisable on or before May 14, 2019, which is 60 days after March 15, 2019. These shares are deemed to be outstanding and beneficially owned by the person holding those options or warrants for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. The information contained in the following table is not necessarily indicative of beneficial ownership for any other purpose, and the inclusion of any shares in the table does not constitute an admission of beneficial ownership of those shares. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them, subject to applicable community property laws.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

Except as otherwise noted below, the address for persons listed in the table is c/o PhaseBio Pharmaceuticals, Inc., 1 Great Valley Parkway, Suite 30, Malvern, Pennsylvania 19355.

Name of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned	
		Prior to the Offering (%)	After the Offering (%)(1)
5% or greater stockholders:			
Entities Affiliated with Wellington Management Group LLP(2)	3,370,960	13.8	
Entities Affiliated with New Enterprise Associates(3)	6,641,634	27.1	
Zeneca, Inc.(4)	3,004,554	12.3	
Entities Affiliated with Hatteras Venture Partners(5)	2,519,352	10.3	
Entities Affiliated with Johnson & Johnson(6)	1,625,491	6.6	
Named executive officers and directors:			
Jonathan P. Mow(7)	426,184	1.7	
John Sharp(8)	121,232	*	
John Lee, M.D., Ph.D.(9)	118,492	*	
Edmund P. Harrigan(10)	9,578	*	
Nancy J. Hutson, Ph.D.(11)	10,393	*	
Peter Justin Klein, M.D., J.D.(12)	8,303	*	
Caroline Loewy(13)	1,483	*	
Bibhash Mukhopadhyay, Ph.D.(14)	6,000	*	
Clay B. Thorp(15)	2,541,151	10.4	
Linda Tufts(16)	945,320	3.9	
Richard A. van den Broek(17)	2,499	*	
All current executive officers and directors as a group (14 persons)(18)	4,365,590	17.2	

* Represents ownership of less than one percent.

(1) Assumes no exercise of the underwriters' option to purchase additional shares of common stock.

(2) This information has been obtained from a Schedule 13G/A filed on February 12, 2019 by entities and individuals associated with Wellington Management Group LLP. Consists of shares of common stock, which are owned of record by clients of the Wellington Investment Advisers. Wellington Investment Advisors Holdings LLP controls directly, or indirectly through Wellington Management Global Holdings, Ltd., the Wellington Investment Advisers. Wellington Investment Advisors Holdings LLP is owned by Wellington Group Holdings LLP. Wellington Group Holdings LLP is owned by Wellington Management Group LLP. The principal business address for all entities and individuals affiliated with Wellington Management Group LLP is c/o Wellington Management Company LLP, 280 Congress Street, Boston, MA 02210.

(3) This information has been obtained from a Schedule 13D filed on October 31, 2018 by entities and individuals associated with New Enterprise Associates 13 L.P., or NEA 13. Consists 6,641,634 shares of common stock held directly by NEA 13. NEA Partners 13, L.P., or NEA Partners 13, is the sole general partner of NEA 13 and NEA 13 GP, LTD, or NEA 13 LTD, is the sole general partner of NEA Partners 13. The principal business address for all entities and individuals affiliated with NEA 13 is New Enterprise Associates, 1954 Greenspring Drive, Suite 600, Timonium, MD 21093.

(4) This information has been obtained from a Schedule 13D filed on October 29, 2018 by entities and individuals associated with AstraZeneca PLC, or AstraZeneca. Shares beneficially owned consists of 3,004,554 shares directly held by Zeneca Inc., a wholly-owned subsidiary of AstraZeneca, or Zeneca. The principal business address of AstraZeneca is 1 Francis Crick Avenue, Cambridge, CB2 0AA, United Kingdom, and the principal business address of Zeneca is 1800 Concord Pike, Wilmington, Delaware, 19803, United States.

(5) This information has been obtained from a Schedule 13D/A filed on November 8, 2018 by entities and individuals associated with Hatteras Venture Partners. Consists of (a) 1,820,929 shares of common stock and 7,909 shares of common stock issuable upon the exercise of warrants held directly by Hatteras Venture Partners III, LP, or HVP III, (b) 163,813 shares of common stock and 718 shares of common stock issuable upon the exercise of warrants held directly by Hatteras Venture Affiliates III, LP, or HV Affiliates, (c) 416,481 shares of common stock held directly by Venture Capital Multiplier Fund, LP, Series B, or Multiplier Fund, (d) 57,533 shares of common stock held directly by Catalysta Ventures, LLC, or Catalysta and (e) 52,687 shares of common stock held directly by Hatteras Venture Partners I, LP, or HVP I. Catalysta is under common control with HVA III. Catalysta is the general partner of HVP I. The securities held directly by HVP I are indirectly held by Catalysta, which may be deemed to share voting and dispositive power with

regard to the securities directly held by HVP I. The individual managers of Catalysta are Clay B. Thorp and John Crumpler, who may be deemed to share voting and dispositive power with regard to the securities held directly by Catalysta and HVP I. Health Venture Advisors III, LLC, or HVA III, is the general partner of HVP III, HV Affiliates and Multiplier Fund. The securities held directly by HVP III, HV Affiliates and Multiplier Fund are indirectly held by HVA III. The individual managers of HVA III are Clay B. Thorp, Robert A. Ingram, Kenneth B. Lee, Douglas Reed, MD and John Crumpler, or the GP Directors. HVA III and the GP Directors may be deemed to share voting and dispositive power with regard to the securities directly held by HVP III, HV Affiliates and Multiplier Fund. The principal business address for all entities and individuals affiliated with Hatteras Venture Partners is 280 S. Mangum Street, Suite 350 Durham, North Carolina 27701.

(6) This information has been obtained from a Schedule 13G filed on January 22, 2019 by entities and individuals associated with Johnson & Johnson, a New Jersey corporation, or J&J, and Johnson & Johnson Innovation-JJDC, Inc., a New Jersey corporation, or JJDC. JJDC is a wholly-owned subsidiary of J&J. Consists of (a) 1,616,863 shares of common stock and 8,628 shares of common stock issuable upon the exercise of warrants held directly by JJDC. The principal business address of J&J is One Johnson & Johnson Plaza, New Brunswick, NJ 08933 and the principal business address of JJDC is 410 George Street, New Brunswick, NJ 08901.

(7) Consists of (a) 51,199 shares of common stock held by the Mow Trust dated April 17, 2008 and (b) 374,985 shares of common stock issuable upon the exercise of options within 60 days of March 15, 2019. Mr. Mow and his wife Diana Mow are joint trustees of the Mow Trust dated April 17, 2008 and share voting and dispositive power for such shares.

(8) Consists of (a) 5,000 shares of common stock and (b) 116,232 shares of common stock issuable upon the exercise of options within 60 days of March 15, 2019.

(9) Consists of 118,492 shares of common stock issuable upon the exercise of options within 60 days of March 15, 2019.

(10) Consists of 9,578 shares of common stock issuable upon the exercise of options within 60 days of March 15, 2019.

(11) Consists of (a) 1,000 shares of common stock and (b) 9,393 shares of common stock issuable upon the exercise of options within 60 days of March 15, 2019.

(12) Consists of (a) 2,303 shares of common stock and (b) 6,000 shares of common stock issuable upon the exercise of options within 60 days of March 15, 2019.

(13) Consists of 1,483 shares of common stock issuable upon the exercise of options within 60 days of March 15, 2019.

(14) Consists of 6,000 shares of common stock issuable upon the exercise of options within 60 days of March 15, 2019.

(15) Consists of (a) 15,799 shares of common stock held by Mr. Thorp and (b) 6,000,000 shares of common stock issuable upon the exercise of options within 60 days of March 15, 2019. Also, consists of (a) 1,820,929 shares of common stock and 7,909 shares of common stock issuable upon the exercise of warrants held directly by Hatteras Venture Partners III, LP, or HVP III, (b) 163,813 shares of common stock and 718 shares of common stock issuable upon the exercise of warrants held directly by Hatteras Venture Affiliates III, LP, or HV Affiliates, (c) 416,481 shares of common stock held directly by Venture Capital Multiplier Fund, LP, Series B, or Multiplier Fund, (d) 57,533 shares of common stock held directly by Catalysta Ventures, LLC, or Catalysta and (e) 52,687 shares of common stock held directly by Hatteras Venture Partners I, LP, or HVP I. Catalysta is under common control with HVA III. Catalysta is the general partner of HVP I. The securities held directly by HVP I are indirectly held by Catalysta, which may be deemed to share voting and dispositive power with regard to the securities directly held by HVP I. The individual managers of Catalysta are Clay B. Thorp and John Crumpler, who may be deemed to share voting and dispositive power with regard to the securities held directly by Catalysta and HVP I. Health Venture Advisors III, LLC, or HVA III, is the general partner of HVP III, HV Affiliates and Multiplier Fund. The securities held directly by HVP III, HV Affiliates and Multiplier Fund are indirectly held by HVA III. The individual managers of HVA III are Clay B. Thorp, Robert A. Ingram, Kenneth B. Lee, Douglas Reed, MD and John Crumpler, or the GP Directors. HVA III and the GP Directors may be deemed to share voting and dispositive power with regard to the securities directly held by HVP III, HV Affiliates and Multiplier Fund. The principal business address for all entities and individuals affiliated with Hatteras Venture Partners is 280 S. Mangum Street, Suite 350 Durham, North Carolina 27701.

(16) Consists of 6,000 shares of common stock issuable upon the exercise of options within 60 days of March 15, 2019. Also, consists of (a) 590,168 shares of common stock and 5,471 shares of common stock issuable upon the exercise of warrants held directly by Fletcher Spaght Ventures II, LP, or Fletcher Spaght Ventures II, (b) 59,429 shares of common stock and 551 shares of common stock issuable upon the exercise of warrants held directly by FSV II, LP, or FSV II and (c) 281,096 shares of common stock and 2,605 shares of common stock issuable upon the exercise of warrants held directly by FSV II-B, LP, or FSV II-B. FSA II, LLC, or FSA II, is the general partner of the general partner of Fletcher Spaght Ventures II and FSV II-B and the manager of the general partner of FSV II. The members of FSA II are R. John Fletcher, Pearson M. Spaght and Linda Tufts, or the FSA II Members. FSA II and the FSA II members may share voting and dispositive power with regard to the securities owned directly by Fletcher Spaght Ventures II, FSV II-B, and FSV II. The principal business address for all entities and individuals affiliated with Fletcher Spaght Ventures is 222 Berkeley Street Boston, MA 02116.

(17) Consists of 2,499 shares of common stock issuable upon the exercise of options within 60 days of March 15, 2019.

(18) Consists of (a) 3,528,125 shares of common stock, (b) 820,211 shares of common stock issuable upon the exercise of options within 60 days of March 15, 2019 and (c) 17,254 shares of common stock issuable upon the exercise of warrants.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

DESCRIPTION OF CAPITAL STOCK

The following descriptions of our capital stock, certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws and certain provisions of Delaware law are summaries. You should also refer to the amended and restated certificate of incorporation and the amended and restated bylaws, which are filed as exhibits to the registration statement of which this prospectus is a part.

General

Our amended and restated certificate of incorporation authorizes us to issue up to 200,000,000 shares of common stock, $0.001 par value per share, and 10,000,000 shares of preferred stock, $0.001 par value per share, all of which shares of preferred stock will be undesignated. Our board of directors may establish the rights and preferences of the preferred stock from time to time.

As of December 31, 2018, there were outstanding 24,498,275 shares of our common stock held by 93 stockholders of record.

Common Stock

Voting Rights

Each holder of our common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Our stockholders do not have cumulative voting rights. Because of this, the holders of a majority of the shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they should so choose.

Dividends

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

Liquidation

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

Rights and Preferences

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

Stock Options

As of December 31, 2018, options to purchase an aggregate of 1,545,403 shares of common stock were outstanding at a weighted-average exercise price of $2.48 per share. We issued options to purchase an aggregate of 961,500 shares of common stock at a weighted-average exercise price of $3.17 per share subsequent to December 31, 2018.

Warrants

As of December 31, 2018, there were outstanding warrants to purchase an aggregate of 75,597 shares of common stock at a weighted-average exercise price of $9.66 per share. We issued warrants to purchase an aggregate of 37,606 shares of common stock at an exercise price of $4.73 per share subsequent to December 31, 2018.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

Preferred Stock

Our board of directors has the authority under our amended and restated certificate of incorporation, without further action by our stockholders, 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 our common stock. The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. 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 control of us and may adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock on the rights of holders of common stock until the board of directors determines the specific rights attached to that preferred stock.

Registration Rights

Certain holders of our common stock are entitled to certain rights with respect to registration of such shares under the Securities Act pursuant to the terms of an investor rights agreement. These shares are collectively referred to herein as registrable securities.

The investor rights agreement provides the holders of registrable securities with demand, piggyback and S-3 registration rights as described more fully below. As of December 31, 2018, there were an aggregate of 13,832,226 registrable securities that were entitled to registration rights.

Demand Registration Rights

At any time beginning on April 16, 2019, the holders of at least 60% of the registrable securities then outstanding have the right to make a demand that we file a registration statement under the Securities Act covering registrable securities then outstanding, subject to specified exceptions.

Piggyback Registration Rights

If we register any securities for public sale, the holders of our registrable securities then outstanding will each be entitled to notice of the registration and will have the right to include their shares in the registration statement.

The underwriters of any underwritten offering will have the right to limit the number of shares having registration rights to be included in the registration statement, but not below 25% of the total number of securities included in such registration.

These piggyback registration rights were waived in connection with this offering.

Registration on Form S-3

If we are eligible to file a registration statement on Form S-3, the holders of our registrable securities have the right to demand that we file registration statements on Form S-3; provided, that the aggregate price to the public of the securities to be sold under the registration statement is at least $2.5 million. The right to have such shares registered on Form S-3 is further subject to other specified conditions and limitations.

Expenses of Registration

We will pay all expenses relating to any demand, piggyback or Form S-3 registration, other than stock transfer taxes or underwriting discounts and commissions, subject to specified conditions and limitations.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

Termination of Registration Rights

The registration rights will terminate upon the earlier of a liquidation event or a written agreement between us and holders of at least 60% of the outstanding registrable securities. The registration rights will terminate with respect to any particular stockholder when such stockholder (a) is able to sell all of its shares pursuant to Rule 144 under the Securities Act or (b) holds one percent or less of our common stock and such stockholder is able to sell all registrable securities during a 90-day period pursuant to Rule 144 under the Securities Act.

Anti-Takeover Provisions

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding, but not the outstanding voting stock owned by the interested stockholder, those shares owned (1) by persons who are directors and also officers and (2) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66⅔% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines a “business combination” to include the following:

- any merger or consolidation involving the corporation or any direct or indirect majority-owned subsidiary of the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder (in one transaction or a series of transactions);
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation or by any direct or indirect majority-owned subsidiary of the corporation of any stock of the corporation or of such subsidiary to the interested stockholder;
- any transaction involving the corporation or any direct or indirect majority-owned subsidiary of the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an “interested stockholder” as an entity or person who, together with the person’s affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

Certificate of Incorporation and Bylaws

Our amended and restated certificate of incorporation provides for our board of directors to be divided into three classes with staggered three-year terms. Only one class of directors is elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because our stockholders do not have cumulative voting rights, stockholders holding a majority of the shares of common stock outstanding are able to elect all of our directors. Our amended and restated certificate and our amended and restated bylaws, or our restated bylaws, also provide that directors may be removed by the stockholders only for cause upon the vote of 66⅔% or more of our outstanding common stock. Furthermore, the authorized number of directors may be changed only by resolution of the board of directors, and vacancies and newly created directorships on the board of directors may, except as otherwise required by law or determined by the board of directors, only be filled by a majority vote of the directors then serving on the board of directors, even though less than a quorum.

Our amended and restated certificate and restated bylaws also provide that all stockholder actions must be effected at a duly called meeting of stockholders and eliminate the right of stockholders to act by written consent without a meeting. Our restated bylaws also provide that only our Chairman of the board of directors, Chief Executive Officer or the board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors may call a special meeting of stockholders.

Our restated bylaws also provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide timely advance notice in writing, and specify requirements as to the form and content of a stockholder's notice.

Our restated certificate and restated bylaws provide that the stockholders cannot amend many of the provisions described above except by a vote of 66⅔% or more of our outstanding common stock. As described in "—Preferred Stock" above, our restated certificate gives our board of directors the authority, without further action by our stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series.

The combination of these provisions makes it more difficult for our existing stockholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Since our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to reduce our vulnerability to hostile takeovers and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of delaying changes in our control or management. As a consequence, these provisions may also inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts. We believe that the benefits of these provisions, including increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure our company, outweigh the disadvantages of discouraging takeover proposals, because negotiation of takeover proposals could result in an improvement of their terms.

Choice of Forum

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for:

- any derivative action or proceeding brought on our behalf;
- any action asserting a breach of fiduciary duty;

- any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our restated certificate, or our amended and restated bylaws; or

- any action asserting a claim against us that is governed by the internal affairs doctrine.

The provision would not apply to suits brought to enforce a duty or liability created by the Exchange Act.

The enforceability of choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with any action, a court could find the choice of forum provisions contained in our restated certificate to be inapplicable or unenforceable in such action.

Our restated certificate further provides that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. Recently, the Court of Chancery of the State of Delaware issued an opinion invalidating the federal district court exclusive forum provision. In light of that recent decision, we will not attempt to enforce this provision of our restated certificate to the extent it is not permitted by applicable law. However, if the decision is reviewed on appeal and ultimately overturned by the Delaware Supreme Court, we would enforce the federal district court exclusive forum provision.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent's address is 250 Royall Street, Canton, Massachusetts 02021.

Listing

Our common stock is listed on the Nasdaq Global Market under the symbol "PHAS."

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS

The following summary describes the material U.S. federal income tax consequences of the acquisition, ownership and disposition of our common stock acquired in this offering by Non-U.S. Holders (as defined below). This discussion does not address all aspects of U.S. federal income taxation and does not address any non-U.S., state or local tax consequences that may be relevant to Non-U.S. Holders in light of their particular circumstances, nor does it address U.S. federal tax consequences other than income taxes, such as gift or estate taxes. Rules different from those described below may apply to certain Non-U.S. Holders that are subject to special treatment under the Code such as financial institutions, insurance companies, tax-exempt organizations, broker-dealers and traders in securities, government organizations, certain foreign citizens or long-term residents of the United States, "controlled foreign corporations," "passive foreign investment companies," corporations that accumulate earnings to avoid U.S. federal income tax, persons that hold our common stock as part of a "straddle," "hedge," "conversion transaction," "synthetic security" or integrated investment or other risk reduction strategy, persons subject to the alternative minimum tax or federal Medicare contribution tax on net investment income, persons who have a functional currency other than the U.S. dollar, accrual method taxpayers subject to special tax accounting rules under Section 451(b) of the Code, partnerships and other pass-through entities and investors in such pass-through entities. Such Non-U.S. Holders are urged to consult their own tax advisors to determine the U.S. federal, state, local and other tax consequences that may be relevant to them. Furthermore, the discussion below is based upon the provisions of the Code and Treasury regulations, rulings and judicial decisions promulgated thereunder as of the date hereof, and such authorities may be repealed, revoked or modified, perhaps retroactively, so as to result in U.S. federal income tax consequences different from those discussed below. We have not requested a ruling from the U.S. Internal Revenue Service, or IRS, with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS will agree with such statements and conclusions. This discussion assumes that the Non-U.S. Holder holds our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment).

Persons considering purchasing our common stock pursuant to this offering should consult their own tax advisors concerning the U.S. federal income, estate and other tax consequences of acquiring, owning and disposing of our common stock in light of their particular situations as well as any consequences arising under the laws of any other taxing jurisdiction, including any state, local or non-U.S. tax consequences. You should also consult with your tax advisor with respect to recently enacted changes in U.S. tax law as well as potential conforming changes in state tax laws.

For the purposes of this discussion, a "Non-U.S. Holder" is, for U.S. federal income tax purposes, a beneficial owner of our common stock that is neither a U.S. Holder nor a partnership (or other entity treated as a partnership for U.S. federal income tax purposes regardless of its place of organization or formation). A "U.S. Holder" means a beneficial owner of our common stock that is, for U.S. federal income tax purposes. (1) an individual who is a citizen or resident of the United States, (2) a corporation or other entity treated as a corporation created or organized in or under the laws of the United States, any state thereof or the District of Columbia, (3) an estate the income of which is subject to U.S. federal income taxation regardless of its source or (4) a trust if it (a) is subject to the primary supervision of a court within the United States and one or more U.S. persons have the authority to control all substantial decisions of the trust or (b) has a valid election in effect under applicable Treasury regulations to be treated as a U.S. person.

Distributions on Our Common Stock

Distributions, if any, made on our common stock to a Non-U.S. Holder to the extent made out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles) generally will constitute dividends for U.S. tax purposes. Subject to the discussion below regarding backup withholding and foreign accounts, such dividends will be subject to withholding tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty. To obtain a reduced rate of withholding tax under a treaty, a Non-U.S. Holder generally will be required to provide us with a properly executed IRS Form W-8BEN (in the

case of individuals), IRS Form W-8BEN-E (in the case of entities) or other appropriate form, including a U.S. taxpayer identification number and certifying the Non-U.S. Holder's entitlement to benefits under that treaty. This certification must be provided to us or our paying agent prior to the payment of dividends and must be updated periodically. In the case of a Non-U.S. Holder that is an entity, Treasury regulations and the relevant tax treaty provide rules to determine whether, for purposes of determining the applicability of a tax treaty, dividends will be treated as paid to the entity or to those holding an interest in that entity. If a Non-U.S. Holder holds stock through a financial institution or other agent acting on the holder's behalf, the holder will be required to provide appropriate documentation to such agent. The holder's agent will then be required to provide certification to us or our paying agent, either directly or through other intermediaries. If you are eligible for a reduced rate of U.S. federal withholding tax under an income tax treaty and you do not timely provide the required certification, you may be able to obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim for a refund with the IRS.

We generally are not required to withhold tax on dividends paid to a Non-U.S. Holder that are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, are attributable to a permanent establishment that such holder maintains in the United States) if a properly executed IRS Form W-8ECI, stating that the dividends are so connected, is furnished to us (or, if stock is held through a financial institution or other agent, to such agent). In general, such effectively connected dividends will be subject to U.S. federal income tax, on a net income basis at the regular graduated rates applicable to U.S. residents. A corporate Non-U.S. Holder receiving effectively connected dividends may also be subject to an additional "branch profits tax" which is imposed, under certain circumstances, at a rate of 30% (or such lower rate as may be specified by an applicable treaty) on the corporate Non-U.S. Holder's effectively connected earnings and profits, subject to certain adjustments. Non-U.S. Holders should consult their tax advisors regarding any applicable income tax treaties that may provide for different rules.

To the extent distributions on our common stock, if any, exceed our current and accumulated earnings and profits, they will first reduce the Non-U.S. Holder's adjusted basis in our common stock, but not below zero, and then will be treated as gain to the extent of any excess and taxed in the same manner as gain realized from a sale or other disposition of common stock as described in the next section.

Gain on Disposition of Our Common Stock

Subject to the discussion below regarding backup withholding and foreign accounts, a Non-U.S. Holder generally should not be subject to U.S. federal income tax with respect to gain realized on a sale or other disposition of our common stock unless (1) the gain is effectively connected with a trade or business of such holder in the United States (and, if required by an applicable income tax treaty, is attributable to a permanent establishment that such holder maintains in the United States), (2) the Non-U.S. Holder is a nonresident alien individual and is present in the United States for 183 or more days in the taxable year of the disposition and certain other conditions are met or (3) we are or have been a "United States real property holding corporation" within the meaning of Section 897(c)(2) of the Code at any time within the shorter of the five-year period preceding such disposition or such holder's holding period. In general, we would be a U.S. real property holding corporation if interests in U.S. real estate comprised at least half of the fair market value of our business assets. We believe that we are not, and do not anticipate becoming, a U.S. real property holding corporation. However, because the determination of whether we are a U.S. real property holding corporation depends on the fair market value of our U.S. real property relative to the fair market value of our other business assets, there can be no assurance that we will not become a U.S. real property holding corporation in the future. Even if we are treated as a U.S. real property holding corporation, gain realized by a Non-U.S. Holder on a disposition of our common stock will not be subject to U.S. federal income tax so long as (a) the Non-U.S. Holder owned, directly, indirectly and constructively, no more than five percent of our common stock at all times within the shorter of (1) the five- year period preceding the disposition or (2) the holder's holding period and (b) our common stock is regularly traded on an established securities market. There can be no assurance that our common stock will qualify as regularly traded on an established securities market. If any gain on your disposition is taxable because we are a U.S. real property holding corporation and your ownership of our common stock exceeds 5%, you will be taxed

on such disposition generally in the manner applicable to U.S. persons and, in addition, a purchaser of your common stock may be required to withhold tax with respect to that obligation.

If you are a Non-U.S. Holder described in (1) above, you will be required to pay tax on the net gain derived from the sale at regular graduated U.S. federal income tax rates, and corporate Non-U.S. Holders described in (1) above may be subject to the additional branch profits tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty. If you are an individual Non-U.S. Holder described in (2) above, you will be required to pay a flat 30% tax on the gain derived from the sale, and such gain may be offset by U.S.-source capital losses if you timely file U.S. tax returns reporting the losses (even though you are not considered a resident of the U.S.).

Information Reporting Requirements and Backup Withholding

Generally, we must report information to the IRS with respect to any dividends we pay on our common stock (even if the payments are not subject to withholding) including the amount of any such dividends, the name and address of the recipient and the amount, if any, of tax withheld. A similar report is sent to dividend recipients. The IRS may make its reports available to tax authorities in the recipient's country of residence pursuant to tax treaties or certain other agreements.

Dividends paid by us or by our paying agents to a Non-U.S. Holder may also be subject to U.S. backup withholding. U.S. backup withholding generally will not apply to a Non-U.S. Holder who provides a properly executed IRS Form W-8BEN (in the case of individuals) or IRS Form W-8BEN-E (in the case of entities), IRS Form W-8ECI or otherwise establishes an exemption. Notwithstanding the foregoing, backup withholding may apply if the payor has actual knowledge, or reason to know, that the holder is a U.S. person who is not an exempt recipient.

Under current U.S. federal income tax law, U.S. information reporting and backup withholding requirements generally will apply to the proceeds of a disposition of our common stock effected by or through a U.S. office of any broker, U.S. or foreign, except that information reporting and such requirements may be avoided if the holder provides a properly executed IRS Form W-8BEN (in the case of individuals) or IRS Form W-8BEN-E (in the case of entities) or otherwise satisfies documentary evidence requirements for establishing Non- U.S. Holder status or otherwise establishes an exemption. Generally, U.S. information reporting and backup withholding requirements will not apply to a payment of disposition proceeds to a Non-U.S. Holder where the transaction is effected outside the U.S. through a non-U.S. office of a non-U.S. broker. Information reporting and backup withholding requirements may, however, apply to a payment of disposition proceeds if the broker has actual knowledge, or reason to know, that the holder is, in fact, a U.S. person. For information reporting purposes, certain brokers with substantial U.S. ownership or operations will generally be treated in a manner similar to U.S. brokers.

Any amounts of tax withheld under the backup withholding rules may be credited against the tax liability of persons subject to backup withholding, provided that the required information is timely furnished to the IRS.

Foreign Accounts

Sections 1471 through 1474 of the Code (commonly referred to as FATCA) impose a U.S. federal withholding tax of 30% on dividends on and the gross proceeds of a disposition of our common stock paid to a foreign financial institution (as specifically defined by applicable rules), unless such institution enters into an agreement with the U.S. government to withhold on certain payments and to collect and provide to the U.S. tax authorities substantial information regarding U.S. account holders of such institution (which includes certain equity holders of such institution, as well as certain account holders that are foreign entities with U.S. owners). FATCA also imposes a U.S. federal withholding tax of 30% on dividends on and the gross proceeds of a disposition of our common stock to a non-financial foreign entity, unless such entity provides the withholding agent with either a certification that it does not have any substantial direct or indirect U.S. owners or provides information regarding substantial direct and indirect U.S. owners of the entity. The withholding tax described

above will not apply if the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from the rules. Under certain circumstances, a Non-U.S. Holder might be eligible for refunds or credits of such taxes. Holders are encouraged to consult with their own tax advisors regarding the possible implications of these rules to their investment in our common stock.

The withholding provisions described above apply currently to payments of dividends and, and, subject to the recently released proposed Treasury Regulations described below, will apply to payments of gross proceeds from a sale or other disposition of common stock on or after January 1, 2019. The U.S. Treasury Department recently released proposed regulations which, if finalized in their present form, would eliminate the federal withholding tax of 30% applicable to the gross proceeds of a disposition of our common stock. In its preamble to such proposed regulations, the U.S. Treasury Department stated that taxpayers may generally rely on the proposed regulations until final regulations are issued.

EACH PROSPECTIVE INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR REGARDING THE TAX CONSEQUENCES OF PURCHASING, HOLDING AND DISPOSING OF OUR COMMON STOCK, INCLUDING THE CONSEQUENCES OF ANY RECENT AND PROPOSED CHANGE IN APPLICABLE LAW.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

UNDERWRITING

Citigroup Global Markets Inc., Cowen and Company, LLC and Stifel, Nicolaus & Company, Incorporated are acting as book-running managers of this offering and as representatives of the underwriters named below. Subject to the terms and conditions stated in the underwriting agreement dated the date of this prospectus, the underwriters named below have severally agreed to purchase, and we have agreed to sell to them, the number of shares of our common stock indicated below:

Underwriter	Number of Shares
Citigroup Global Markets Inc.	
Cowen and Company, LLC	
Stifel, Nicolaus & Company, Incorporated	
Needham & Company, LLC	
Total	

The underwriting agreement provides that the obligations of the underwriters to purchase the shares of our common stock included in this offering are subject to approval of legal matters by counsel and to other conditions. The underwriters are obligated to purchase all of the shares of our common stock (other than those covered by the option to purchase additional shares described below) if they purchase any of the shares.

Shares of our common stock sold by the underwriters to the public will be offered at the public offering price set forth on the cover of this prospectus. Any shares of our common stock sold by the underwriters to securities dealers may be sold at a discount from the public offering price not to exceed $ per share. After the initial offering of the shares of our common stock to the public, if all the shares of our common stock are not sold at the public offering price, the underwriters may change the offering price and the other selling terms. The representatives have advised us that the underwriters do not intend to make sales to discretionary accounts.

If the underwriters sell more shares of our common stock than the total number set forth in the table above, we have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase up to additional shares of our common stock at the public offering price less the underwriting discount. The underwriters may exercise the option solely for the purpose of covering the underwriters' option to purchase additional shares, if any, in connection with this offering. To the extent the option is exercised, each underwriter must purchase a number of additional shares of our common stock approximately proportionate to that underwriter's initial purchase commitment set forth in the table above. Any shares of our common stock issued or sold under the option will be issued and sold on the same terms and conditions as the other shares of our common stock that are the subject of this offering.

We, our officers and directors and some of our stockholders have agreed that, subject to specified limited exceptions, for a period of 60 days from the date of this prospectus, we and they will not, without the prior written consent of Citigroup Global Markets Inc. and Cowen and Company, LLC, offer, sell, contract to sell, pledge or otherwise dispose of, including the filing of a registration statement in respect of, or hedge any shares of our common stock or any securities convertible into, or exercisable or exchangeable for, our common stock. Citigroup Global Markets Inc. and Cowen and Company, LLC in their sole discretion may release any of the securities subject to these lock-up agreements at any time.

Our common stock is listed on the Nasdaq Global Market under the symbol "PHAS."

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

The following table shows the per share and total public offering price, underwriting discounts and commissions that we are to pay to the underwriters and proceeds to us, before expenses, in connection with this offering. These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares:

		Total	
	Per share	No exercise	Full exercise
Public offering price	$		
Underwriting discounts and commissions paid by us	$		
Proceeds to us, before expenses	$		

We estimate that expenses payable by us in connection with this offering, exclusive of underwriting discounts and commissions, will be approximately $. We have also agreed to reimburse the underwriters for expenses in an amount up to $30,000 relating to the clearance of this offering with the Financial Industry Regulatory Authority, Inc.

In connection with this offering, the underwriters may purchase and sell shares of our common stock in the open market. Purchases and sales in the open market may include short sales, purchases to cover short positions, which may include purchases pursuant to the underwriters' option to purchase additional shares, and other transactions that would stabilize, maintain or otherwise affect the price of our common stock.

- Short sales involve secondary market sales by the underwriters of a greater number of shares of our common stock than they are required to purchase in this offering:
    - "Covered" short sales involve secondary market sales by the underwriters of a greater number of shares of our common stock than they are represented by the underwriters' option.
    - "Naked" short sales involve secondary market sales by the underwriters of a greater number of shares of our common stock than they are represented by the underwriters' option.
- The underwriters can close out a short position by purchasing additional shares of our common stock, either pursuant to the underwriters' option to purchase additional shares or in the open market.
    - To close a naked short position, the underwriters must purchase shares of our common stock in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the shares of our common stock in the open market after pricing that could adversely affect investors who purchase in this offering.
    - To close a covered short position, the underwriters must purchase shares of our common stock in the open market or exercise their option. In determining the source of shares of our common stock to close the covered short position, the underwriters will consider, among other things, the price of shares of our common stock available for purchase in the open market as compared to the price at which they may purchase shares of our common stock through their option.
- As an additional means of facilitating this offering, the underwriters may bid for, and purchase, shares of our common stock on the Nasdaq Global Market, as long as such bids do not exceed a specified maximum, to stabilize the price of the shares of our common stock.

Purchases to cover short positions and stabilizing purchases, as well as other purchases by the underwriters for their own accounts, may have the effect of preventing or retarding a decline in the market price of the shares. They may also cause the price of the shares of our common stock to be higher than the price that would otherwise prevail in the open market in the absence of these transactions. The underwriters may conduct these transactions on the Nasdaq Global Market, in the over-the-counter market or otherwise. The underwriters are not required to engage in any of these transactions and may discontinue them at any time.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make because of any of those liabilities.

A prospectus in electronic format may be made available on websites maintained by one or more of the underwriters or their respective affiliates. The representatives may agree with us to allocate a number of shares of our common stock to underwriters for sale to their online brokerage account holders. Any such allocation for online distributions will be made by the underwriters on the same basis as other allocations. Other than the prospectus in electronic format, the information on the underwriters' or their respective affiliates' websites and any information contained in any other website maintained by any of the underwriters or their respective affiliates is not part of this prospectus, has not been approved and/or endorsed by us or the underwriters and should not be relied upon by investors in this offering.

Other Relationships

The underwriters are full-service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. The underwriters and their respective affiliates may, from time to time, engage in transactions with and perform services for us in the ordinary course of their business for which they may receive customary fees and reimbursement of expenses. In the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans or credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long or short positions in such securities and instruments.

Notice to Prospective Investors in the European Economic Area

In relation to each member state of the European Economic Area that has implemented the Prospectus Directive (each, a relevant member state), with effect from and including the date on which the Prospectus Directive is implemented in that relevant member state (the relevant implementation date), an offer of shares of our common stock described in this prospectus may not be made to the public in that relevant member state other than:

- to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- to fewer than 100 or, if the relevant member state has implemented the relevant provision of the 2010 PD Amending Directive, 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the relevant Dealer or Dealers nominated by us for any such offer; or
- in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of shares of our common stock shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

For purposes of this provision, the expression an "offer of securities to the public" in any relevant member state means the communication in any form and by any means of sufficient information on the terms of the offer and the shares of our common stock to be offered so as to enable an investor to decide to purchase or subscribe for any shares of our common stock, as the expression may be varied in that member state by any measure implementing the Prospectus Directive in that member state, the expression "Prospectus Directive" means

Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the relevant member state) and includes any relevant implementing measure in the relevant member state, and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

The sellers of the shares of our common stock have not authorized and do not authorize the making of any offer of shares of our common stock through any financial intermediary on their behalf, other than offers made by the underwriters with a view to the final placement of the shares of our common stock as contemplated in this prospectus. Accordingly, no purchaser of the shares of our common stock, other than the underwriters, is authorized to make any further offer of the shares of our common stock on behalf of the sellers or the underwriters.

Notice to Prospective Investors in the United Kingdom

This prospectus is only being distributed to, and is only directed at, persons in the United Kingdom that are qualified investors within the meaning of Article 2(1)(e) of the Prospectus Directive that are also (1) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, or the Order, or (2) high net worth entities, and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (each such person being referred to as a relevant person).

This prospectus and its contents are confidential and should not be distributed, published or reproduced (in whole or in part) or disclosed by recipients to any other persons in the United Kingdom. Any person in the United Kingdom that is not a relevant person should not act or rely on this document or any of its contents.

Notice to Prospective Investors in Australia

No prospectus or other disclosure document (as defined in the Corporations Act 2001 (Cth) of Australia, or Corporations Act) in relation to our common stock has been or will be lodged with the Australian Securities & Investments Commission, or ASIC. This document has not been lodged with ASIC and is only directed to certain categories of exempt persons. Accordingly, if you receive this document in Australia:

- you confirm and warrant that you are either:
    - a "sophisticated investor" under Section 708(8)(a) or (b) of the Corporations Act;
    - a "sophisticated investor" under Section 708(8)(c) or (d) of the Corporations Act and that you have provided an accountant's certificate to us which complies with the requirements of Section 708(8)(c)(i) or (ii) of the Corporations Act and related regulations before the offer has been made; a person associated with the company under Section 708(12) of the Corporations Act; or
    - a "professional investor" within the meaning of Section 708(11)(a) or (b) of the Corporations Act, and to the extent that you are unable to confirm or warrant that you are an exempt sophisticated investor, associated person or professional investor under the Corporations Act any offer made to you under this document is void and incapable of acceptance; and
- you warrant and agree that you will not offer any of our common stock for resale in Australia within 12 months of that common stock being issued unless any such resale offer is exempt from the requirement to issue a disclosure document under Section 708 of the Corporations Act.

Notice to Prospective Investors in Canada

The securities may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration

Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the securities must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to Section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Notice to Prospective Investors in France

Neither this prospectus nor any other offering material relating to the shares of our common stock described in this prospectus has been submitted to the clearance procedures of the *Autorité des Marchés Financiers* or of the competent authority of another member state of the European Economic Area and notified to the *Autorité des Marchés Financiers*. The shares of our common stock have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in France. Neither this prospectus nor any other offering material relating to the shares of our common stock has been or will be:

- released, issued, distributed or caused to be released, issued or distributed to the public in France; or
- used in connection with any offer for subscription or sale of the shares of our common stock to the public in France.

Such offers, sales and distributions will be made in France only:

- to qualified investors (*investisseurs qualifiés*) and/or to a restricted circle of investors (*cercle restreint d'investisseurs*), in each case investing for their own account, all as defined in and in accordance with articles L.411-2, D.411-1, D.411-2, D.734-1, D.744-1, D.754-1and D.764-1 of the French Code monétaire et financier;

- to investment services providers authorized to engage in portfolio management on behalf of third parties; or

- in a transaction that, in accordance with article L.411-2-II-1° -or-2° -or 3° of the French Code *monétaire et financier* and article 211-2 of the General Regulations (*Règlement Général*) of the *Autorité des Marchés Financiers*, does not constitute a public offer (*appel public à l'épargne*).

The shares of our common stock may be resold directly or indirectly, only in compliance with articles L.411-1, L.411-2, L.412-1 and L.621-8 through L.621-8-3 of the French Code *monétaire et financier*.

Notice to Prospective Investors in Hong Kong

The shares of our common stock may not be offered or sold in Hong Kong by means of any document other than (1) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong), or (2) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder, or (3) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong) and no advertisement, invitation or document relating to the shares of our common stock may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be

accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to shares of our common stock which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Notice to Prospective Investors in the State of Israel

In the State of Israel this prospectus shall not be regarded as an offer to the public to purchase shares of common stock under the Israeli Securities Law, 5728 - 1968, which requires a prospectus to be published and authorized by the Israel Securities Authority, if it complies with certain provisions of Section 15 of the Israeli Securities Law, 5728 - 1968, including, inter alia, if: (1) the offer is made, distributed or directed to not more than 35 investors, subject to certain conditions, or the Addressed Investors; or (2) the offer is made, distributed or directed to certain qualified investors defined in the First Addendum of the Israeli Securities Law, 5728 - 1968, subject to certain conditions, or Qualified Investors. The Qualified Investors shall not be taken into account in the count of the Addressed Investors and may be offered to purchase securities in addition to the 35 Addressed Investors. We have not and will not take any action that would require us to publish a prospectus in accordance with and subject to the Israeli Securities Law, 5728 - 1968. We have not and will not distribute this prospectus or make, distribute or direct an offer to subscribe for our common stock to any person within the State of Israel, other than to Qualified Investors and up to 35 Addressed Investors.

Qualified Investors may have to submit written evidence that they meet the definitions set out in of the First Addendum to the Israeli Securities Law, 5728 - 1968. In particular, we may request that Qualified Investors will each represent, warrant and certify to us and/or to anyone acting on our behalf: (1) that it is an investor falling within one of the categories listed in the First Addendum to the Israeli Securities Law, 5728 - 1968; (2) which of the categories listed in the First Addendum to the Israeli Securities Law, 5728 - 1968 regarding Qualified Investors is applicable to it; (3) that it will abide by all provisions set forth in the Israeli Securities Law, 5728 - 1968 and the regulations promulgated thereunder in connection with this offering; (4) that the shares of common stock that it will be issued are, subject to exemptions available under the Israeli Securities Law, 5728 -1968: (a) for its own account; (b) for investment purposes only; and (c) not issued with a view to resale within the State of Israel, other than in accordance with the provisions of the Israeli Securities Law, 5728 -1968; and (5) that it is willing to provide further evidence of its Qualified Investor status. Addressed Investors may have to submit written evidence in respect of their identity and may have to sign and submit a declaration containing, inter alia, the Addressed Investor's name, address and passport number or Israeli identification number.

Notice to Prospective Investors in Japan

The shares of our common stock offered in this prospectus have not been and will not be registered under the Financial Instruments and Exchange Law of Japan. The shares of our common stock have not been offered or sold and will not be offered or sold, directly or indirectly, in Japan or to or for the account of any resident of Japan (including any corporation or other entity organized under the laws of Japan), except (1) pursuant to an exemption from the registration requirements of the Financial Instruments and Exchange Law and (2) in compliance with any other applicable requirements of Japanese law.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares of our common stock may not be circulated or distributed, nor may the shares of our common stock be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (1) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or the SFA, (2) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275 of the SFA or (3) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to compliance with conditions set forth in the SFA.

Where the shares of our common stock are subscribed or purchased under Section 275 of the SFA by a relevant party which is:

- a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

- a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, shares, debentures and units of shares of our common stock and debentures of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares of our common stock pursuant to an offer made under Section 275 of the SFA except:

    - to an institutional investor (for corporations, under Section 274 of the SFA) or to a relevant person defined in Section 275(2) of the SFA, or to any person pursuant to an offer that is made on terms that such shares, debentures and units of shares of our common stock and debentures of that corporation or such rights and interest in that trust are acquired at a consideration of not less than $200,000 (or its equivalent in a foreign currency) for each transaction, whether such amount is to be paid for in cash or by exchange of securities or other assets, and further for corporations, in accordance with the conditions specified in Section 275 of the SFA;

    - where no consideration is or will be given for the transfer; or

    - where the transfer is by operation of law.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

LEGAL MATTERS

The validity of the shares of common stock being offered by this prospectus will be passed upon for us by Cooley LLP, Reston, Virginia. Goodwin Procter LLP, New York, New York, is representing the underwriters in connection with this offering.

EXPERTS

The financial statements of PhaseBio Pharmaceuticals, Inc. as of December 31, 2018 and 2017 and for the years then ended have been incorporated by reference herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

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

You can read our SEC filings, including the registration statement, over the internet at the SEC's website at *www.sec.gov*.

We are subject to the information reporting requirements of the Exchange Act, and we have filed and will file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information will be available at the website of the SEC referred to above. We also maintain a website at *www.phasebio.com*, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not part of, and is not incorporated into, this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus. We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC (File No. 001-38697):

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2018, filed with the SEC on March 26, 2019;
- our definitive Proxy Statement on Schedule 14A, filed with the SEC on , 2019 (excluding those portions that are not incorporated by reference into our Annual Report on Form 10-K for the fiscal year ended December 31, 2018); and
- our Current Reports on Form 8-K filed with the SEC on January 25, 2019, March 4, 2019 and March 21, 2019, in each case to the extent the information in such reports is filed and not furnished; and
- the description of our common stock contained in our registration statement on Form 8-A filed with the SEC on October 9, 2018, including any amendments or reports filed for the purposes of updating this description.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

Notwithstanding the statements in the preceding paragraphs, no document, report or exhibit (or portion of any of the foregoing) or any other information that we have "furnished" to the SEC pursuant to the Exchange Act shall be incorporated by reference into this prospectus.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus, including exhibits to these documents. You should direct any requests for documents to PhaseBio Pharmaceuticals, Inc., Attn: Corporate Secretary, 1 Great Valley Parkway, Suite 30, Malvern, Pennsylvania 19355.

You also may access these filings on our website at *www.phasebio.com*. We do not incorporate the information on our website into this prospectus or any supplement to this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any supplement to this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus).

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.

Table of Contents

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

Shares

Common Stock

PRELIMINARY PROSPECTUS

, 2019

Citigroup **Cowen** **Stifel**

Needham & Company

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

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

	Amount to be Paid
SEC registration fee	$ *
FINRA filing fee	*
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees	*
Miscellaneous fees and expenses	*
Total	$ *

* To be filed by amendment.

Item 14. Indemnification of Directors and Officers.

We are incorporated under the laws of the State of Delaware. Section 102 of the Delaware General Corporation Law permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his or her duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit.

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she is or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

As permitted by the Delaware General Corporation Law, our amended and restated bylaws will provide that: (1) we are required to indemnify our directors and executive officers to the fullest extent permitted by the Delaware General Corporation Law; (2) we may, in our discretion, indemnify our other officers, employees and agents as set forth in the Delaware General Corporation Law; (3) we are required, upon satisfaction of certain conditions, to advance all expenses incurred by our directors and executive officers in connection with certain legal proceedings; (4) the rights conferred in the bylaws are not exclusive; (5) we are authorized to enter into

indemnification agreements with our directors, officers, employees and agents and (6) we may secure insurance on behalf of any director, officer, employee or other agent for any liability arising out of his or her actions in that capacity regardless of whether we would otherwise be permitted to indemnify him or her under the provisions of Delaware law.

Our policy is to enter into agreements with our directors and executive officers that require us to indemnify them against expenses, judgments, fines, settlements and other amounts that any such person becomes legally obligated to pay (including with respect to a derivative action) in connection with any proceeding, whether actual or threatened, to which such person may be made a party by reason of the fact that such person is or was a director or officer of us or any of our affiliates, provided such person acted in good faith and in a manner such person reasonably believed to be in, or not opposed to, our best interests. These indemnification agreements also set forth certain procedures that will apply in the event of a claim for indemnification thereunder. At present, no litigation or proceeding is pending that involves any of our directors or officers regarding which indemnification is sought, nor are we aware of any threatened litigation that may result in claims for indemnification.

We maintain a directors' and officers' liability insurance policy. The policy insures directors and officers against unindemnified losses arising from certain wrongful acts in their capacities as directors and officers and reimburses us for those losses for which we have lawfully indemnified the directors and officers. The policy contains various exclusions.

In addition, the underwriting agreement filed as Exhibit 1.1 to this registration statement provides for indemnification by the underwriters of us and our officers and directors for certain liabilities arising under the Securities Act of 1933, as amended, or the Securities Act, or otherwise. Our investor rights agreement with certain stockholders filed as Exhibit 4.3 to this registration statement also provides for cross-indemnification in connection with the registration of our common stock on behalf of such investors.

See the undertakings set forth in response to Item 17 herein.

Item 15. Recent Sales of Unregistered Securities.

The following list sets forth information regarding all unregistered securities issued by us since January 1, 2016 through the date of the prospectus that is a part of this registration statement.

Issuances of Capital Stock

1. In January 2017, we sold convertible promissory notes in the aggregate principal amount of $6,615,000 and issued warrants to 10 investors to purchase an aggregate of 136,979 shares of Series C-1 redeemable convertible preferred stock at $0.12 per share.

2. In October 2017, in connection with a loan and security agreement, we issued warrants to Silicon Valley Bank to purchase 49,713 shares of Series C-1 redeemable convertible preferred stock at $9.659 per share.

3. In October 2017, we sold convertible promissory notes in the aggregate principal amount of up to $8,085,000 and issued warrants to 10 investors to purchase an aggregate of 167,418 shares of Series C-1 redeemable convertible preferred stock at $0.12 per share.

4. In August 2018, we issued 1,842,959 shares of Series D redeemable convertible preferred stock to 19 investors for a purchase price of $9.659 per share, for net proceeds of $17.7 million and issued warrants to purchase 368,582 shares of Series C-1 redeemable convertible preferred stock. We concurrently issued 2,080,209 shares of Series D redeemable convertible preferred stock to 10 investors upon the conversion of outstanding convertible promissory notes, and accrued interest thereon, in the aggregate principal amount of up to $14.7 million. In August and September 2018, we issued 144,951 shares of Series C-1 redeemable convertible preferred stock to seven investors upon the exercise of warrants, for aggregate consideration of $16,036.61.

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

The offers, sales and issuances of the securities described in the preceding paragraph were deemed to be exempt from registration under the Securities Act in reliance on Section 4(a)(2) of the Securities Act or Rule 506 of Regulation D promulgated thereunder as a transaction by an issuer not involving a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was either an accredited investor within the meaning of Rule 501 of Regulation D under the Securities Act or had adequate access, through employment, business or other relationships, to information about us.

In addition, in connection with the closing of our initial public offering in October 2018, we issued 58,248 shares of common stock upon the exercise of warrants for cash at a weighted-average exercise price of $0.12 per share. We also issued 560,838 shares of common stock upon the net exercise of warrants at a weighted-average exercise price of $0.12 per share. In conjunction with this transaction, an aggregate of 13,800 shares of common stock otherwise issuable pursuant to such warrants were forfeited as consideration for the exercise. Upon the completion of our initial public offering in October 2018, all of our outstanding shares of redeemable convertible preferred stock, including the shares described above, automatically converted into an aggregate of 13,200,115 shares of common stock. The issuance of the securities described in this paragraph was exempt from registration under Section 3(a)(9) of the Securities Act.

Issuances of Equity Awards

From January 1, 2016 through October 22, 2018, the date of effectiveness of our registration statement on Form S-8, we have granted options under our Amended and Restated 2002 Stock Plan to purchase an aggregate of 1,074,663 shares of our common stock to our officers, employees and consultants, having exercise prices ranging from $1.43 to $5.00 per share. During this time period, options to purchase an aggregate of 99,501 shares have been cancelled without being exercised and 39,114 shares were issued upon the exercise of stock options, at a weighted-average exercise price of $2.09 per share, for aggregate proceeds of approximately $82,000.

The offers, sales and issuances of the securities described in the preceding paragraph were deemed to be exempt from registration either under Rule 701 promulgated under the Securities Act, in that the transactions were under compensatory benefit plans and contracts relating to compensation, or under Section 4(a)(2) of the Securities Act in that the transactions were between an issuer and members of its senior executive management and did not involve any public offering within the meaning of Section 4(a)(2). The recipients of such securities were our employees, directors or consultants and received the securities under our equity incentive plans. Appropriate legends were affixed to the securities issued in these transactions.

The information in this Item 15 gives effect to an 11.0643-for-1 reverse stock split of our common and redeemable convertible preferred stock effected on October 4, 2018.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits

Exhibit Number	Exhibit Title	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
1.1*	Form of Underwriting Agreement.				
3.1	Amended and Restated Certificate of Incorporation of PhaseBio Pharmaceuticals, Inc.	8-K	001-38697	3.1	October 22, 2018
3.2	Amended and Restated Bylaws of PhaseBio Pharmaceuticals, Inc.	S-1/A	333-227474	3.4	October 5, 2018
4.1	Form of Warrant to Purchase Shares of Series B Redeemable Convertible Preferred Stock, issued by PhaseBio Pharmaceuticals, Inc. on December 22, 2009.	S-1	333-227474	4.2	September 21, 2018

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

Exhibit Number	Exhibit Title	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
4.2	Warrant to Purchase Shares of Series C-1 Redeemable Convertible Preferred Stock, issued by PhaseBio Pharmaceuticals, Inc. to Silicon Valley Bank on October 18, 2017.	S-1	333-227474	4.3	September 21, 2018
4.3	Fourth Amended and Restated Investor Rights Agreement, by and among PhaseBio Pharmaceuticals, Inc. and certain of its stockholders, dated August 27, 2018.	S-1	333-227474	4.4	September 21, 2018
4.4	Warrant to Purchase Shares of Common Stock, issued by PhaseBio Pharmaceuticals, Inc. to Silicon Valley Bank on March 25, 2019.	10-K	001-38697	4.4	March 26, 2019
4.5	Warrant to Purchase Shares of Common Stock, issued by PhaseBio Pharmaceuticals, Inc. to WestRiver Innovation Lending Fund VIII, L.P. on March 25, 2019.	10-K	001-38697	4.5	March 26, 2019
5.1*	Opinion of Cooley LLP.				
10.1+	2018 Equity Incentive Plan and Forms of Stock Option Grant Notice and Agreement and Restricted Stock Unit Grant Notice and Agreement thereunder.	S-8	333-227935	10.2	October 22, 2018
10.2+	2018 Employee Stock Purchase Plan.	S-8	333-227935	10.3	October 22, 2018
10.3+	Non-Employee Director Compensation Policy.	S-1/A	333-227474	10.4	October 5, 2018
10.4+	Form of Indemnification Agreement by and between PhaseBio Pharmaceuticals, Inc. and each of its directors and executive officers.	S-1/A	333-227474	10.5	October 5, 2018
10.5+	Severance Benefit Plan and Form of Participation Agreement.	S-1/A	333-227474	10.6.1	October 5, 2018
10.6+	Amended and Restated 2002 Stock Plan and Form of Option Agreement and Exercise Notice thereunder, as amended to date.	S-1	333-227474	10.1	September 21, 2018
10.7+	Offer Letter, dated as of November 19, 2012, by and between PhaseBio Pharmaceuticals, Inc. and Jonathan P. Mow, as amended to date.	S-1	333-227474	10.7	September 21, 2018
10.8+	Offer Letter, dated as of March 13, 2016, by and between PhaseBio Pharmaceuticals, Inc. and John Sharp.	S-1	333-227474	10.8	September 21, 2018
10.9+	Offer Letter, dated as of November 19, 2012, by and between PhaseBio Pharmaceuticals, Inc. and John Lee, M.D., Ph.D.	S-1	333-227474	10.9	September 21, 2018
10.10#	License Agreement, dated as of October 18, 2017 and as amended to date, by and between Phase Bioscience, Inc. (predecessor to PhaseBio Pharmaceuticals, Inc.) and Duke University	S-1	333-227474	10.10	September 21, 2018
10.11#	License Agreement, dated as of November 21, 2017, by and between PhaseBio Pharmaceuticals, Inc. and MedImmune Limited.	S-1	333-227474	10.11	September 21, 2018
10.12	Loan and Security Agreement, dated as of October 18, 2017 and as amended to date, by and between PhaseBio Pharmaceuticals, Inc. and Silicon Valley Bank.	S-1	333-227474	10.12	September 21, 2018

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

Exhibit Number	Exhibit Title	Incorporated by Reference			
		Form	File No.	Exhibit	Filing Date
10.13	Loan and Security Agreement, dated as of March 25, 2019, by and among PhaseBio Pharmaceuticals, Inc. and Silicon Valley Bank and WestRiver Innovation Lending Fund VIII, L.P.	10-K	001-38697	10.13	March 26, 2019
10.14	Lease Agreement, dated as of January 15, 2010 and as amended to date, by and between PhaseBio Pharmaceuticals, Inc. and Liberty Property Limited Partnership.	S-1	333-227474	10.13	September 21, 2018
10.15#	Master Services Agreement, dated as of November 14, 2018, by and between PhaseBio Pharmaceuticals, Inc. and BioVectra Inc.	10-K	001-38697	10.14	March 26, 2019
23.1*	Consent of KPMG LLP, independent registered public accounting firm.				
23.2*	Consent of Cooley LLP (included in Exhibit 5.1).				
24.1*	Power of Attorney (included on signature page hereto).				

* To be filed by amendment.

\+ Indicates management contract or compensatory plan.

\# Certain portions of this exhibit (indicated by asterisks) have been omitted because they are not material and would likely cause competitive harm to PhaseBio Pharmaceuticals, Inc. if publicly disclosed.

(b) Financial Statement Schedules

No financial statement schedules are provided because the information called for is not required or is shown either in the financial statements or related notes, which are incorporated herein by reference.

Item 17. Undertakings.

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

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

The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective.

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

Confidential Treatment Requested by PhaseBio Pharmaceuticals, Inc.
Pursuant to 17 C.F.R. Section 200.83

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Malvern, Pennsylvania, on the day of , 2019.

PHASEBIO PHARMACEUTICALS INC.

By: _____
Jonathan P. Mow
Chief Executive Officer

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Jonathan P. Mow and John Sharp, and each of them, his or her true and lawful agent, proxy and attorney-in-fact, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to (1) act on, sign and file with the Securities and Exchange Commission any and all amendments (including post-effective amendments) to this registration statement together with all schedules and exhibits thereto and any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, together with all schedules and exhibits thereto, (2) act on, sign and file such certificates, instruments, agreements and other documents as may be necessary or appropriate in connection therewith, (3) act on and file any supplement to any prospectus included in this registration statement or any such amendment or any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and (4) take any and all actions which may be necessary or appropriate to be done, as fully for all intents and purposes as he or she might or could do in person, hereby approving, ratifying and confirming all that such agent, proxy and attorney-in-fact or any of his substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
Jonathan P. Mow	President, Chief Executive Officer and Director *(Principal Executive Officer)*	, 2019
John Sharp	Chief Financial Officer *(Principal Financial Officer and Principal Accounting Officer)*	, 2019
Clay B. Thorp	Chairman of the Board of Directors	, 2019
Edmund P. Harrigan, M.D.	Director	, 2019
Nancy J. Hutson, Ph.D.	Director	, 2019
Peter Justin Klein, M.D., J.D.	Director	, 2019
Caroline Loewy	Director	, 2019
Bibhash Mukhopadhyay, Ph.D.	Director	, 2019
Linda Tufts	Director	, 2019
Richard A. van den Broek	Director	, 2019