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

DIVISION OF
CORPORATION FINANCE

August 24, 2018

Jonathan P. Mow
Chief Executive Officer
PhaseBio Pharmaceuticals, Inc.
Regus Del Mar
12707 High Bluff Drive, Suite 200
San Diego, CA 92130

Re: PhaseBio Pharmaceuticals, Inc.
Draft Registration Statement on Form S-1
Submitted July 27, 2018
CIK No. 0001169245

Dear Mr. Mow:

We have reviewed your draft registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Draft Registration Statement on Form S-1 submitted July 27, 2018

Prospectus Summary, page 1

1. We note that you intend to pursue "accelerated approval" of PB2452 as a ticagrelor reversal agent, if considered appropriate by the FDA. Please describe the specific regulatory pathway for this approval and the basis under which such approval may be granted.

2. We note your statements here and in the Business section that your lead product candidate is a first-in-class reversal agent. These statements imply an expectation of regulatory approval and are inappropriate given the early stage of development. Please remove or revise these statements.

Strategy, page 3

3. Please revise your disclosure to provide context regarding your statement on page 3 that you "retain worldwide commercial rights to PB2452 and PB1046" to clarify that you license PB2452 from AstraZeneca and, to the extent true, the rights to the ELP technology underlying PB1046 from Duke.

4. Please revise the first and second bullet points to put into context your statements concerning your intention and ability to "rapidly advance" PB2452 and PB1046 through clinical trials. In this regard, we note your disclosure on page 15 which indicates that clinical product development involves a lengthy and expensive process, with an uncertain outcome.

Implications of Being an Emerging Growth Company, page 5

5. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.

Use of Proceeds, page 57

6. Please revise this section to disclose the development stages you will be able to reach for PB2452 and PB1046 with your existing cash and the net proceeds of this offering. In addition, to the extent you will need to raise additional capital to complete such stage of development, please disclose the amount and sources of such other funds needed to complete such trials. Refer to Instruction 3 to Item 504 of Regulation S-K.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Critical Accounting Policies and Significant Judgements and Estimates
Determination of the Fair Value of Common Stock, page 77

7. Once you have an estimated offering price or range, please explain to us how you determined the fair value of the common stock underlying your equity issuances and the reasons for any differences between the recent valuations of your common stock leading up to the IPO and the estimated offering price. This information will help facilitate our review of your accounting for equity issuances including stock compensation and beneficial conversion features.

Business
ELP Technology, page 95

8. We note your disclosure that you have conducted clinical trials on product candidates based on your ELP technology that you are no longer developing. Please provide an explanation of why you decided to discontinue development of these product candidates.

Index to Financial Statements
Notes to the Financial Statements
9. Redeemable Convertible Preferred Stock and Stockholders' Deficit
Conversion, page F-20

9. You state, "All Preferred Stock, except the Series 2, is automatically converted into common stock in the event of an initial public offering of specified characteristics, or upon the agreement of 60% of the Preferred Stock, voting together as a single class on an as-converted basis." Please disclose the specified characteristics required for automatic conversion.

General

10. Please provide us proofs of all graphic, visual, or photographic information you will provide in the printed prospectus prior to its use, for example in a preliminary prospectus. Please note that we may have comments regarding this material.

You may contact Tabatha Mccullom at 202-551-3658 or Jim Rosenberg at 202-551-3679 if you have questions regarding comments on the financial statements and related matters. Please contact Irene Paik at 202-551-6553 or Mary Beth Breslin at 202-551-3625 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Healthcare & Insurance

cc: Darren K. DeStefano - Cooley LLP