



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 4546

January 7, 2017

Anatoly Dritschilo, M.D.
Chief Executive Officer
Shuttle Pharmaceuticals, Inc.
1 Research Court, Suite 450
Rockville, Maryland 20850

**Re: Shuttle Pharmaceuticals, Inc.
Registration Statement on Form S-1
Filed December 9, 2016
File No. 333-215027**

Dear Dr. Dritschilo:

We have reviewed your 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 amending your registration statement and providing the requested information. 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 any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments

Prospectus Cover Page

1. Although you describe your offering as a best efforts offering that requires no minimum number of shares to be subscribed for, you also state that you will not consummate any sale until you have received subscription and payment for at least 1,125,000 shares. This appears to be a minimum sale contingency. Accordingly, please revise your description of the offering to remove the language indicating there is no minimum number of shares to be sold in the offering. Further, expand your disclosure to describe the terms of the segregated or escrow account in which you will hold the purchasers' funds until the minimum threshold is reached and the date by which the minimum must be reached. Also describe the terms under which you will return investors' funds in the event the minimum is not reached.
2. Please disclose briefly on the cover page and in more detail in the "Plan of Distribution" section on page 76 how the shares will be marketed and how your executive officers and

directors will identify potential investors in the offering. Please also tell us whether Mr. Starkweather will be participating in the sales of your securities, and if so, tell us the basis for his reliance on the safe harbor in Rule 3a4-1 in light of his involvement with S5 Capital Group.

Overview, page 4

3. In light of the discussion of your competitors on page 55, please revise to disclose the basis for your belief that your product candidates are “first-in-class.”
4. We note your reference to Doranidazole as your second product candidate. However, we also note that the clinical trials for Doranidazole are currently being conducted by Pola Pharmaceuticals, Inc. and it does not appear that you have yet exercised your exclusive option from Pola to license Doranizadole for development and commercialization in the U.S. Accordingly, please revise your disclosure to clarify your current ownership rights with respect to Doranidazole and whether you have negotiated a commercialization and development license with Pola.

Use of Proceeds, page 41

5. Please amend your disclosure to include the estimated amount of proceeds you plan to allocate for each product candidate and indication.
6. It appears from your disclosure that the proceeds from the offering will not be sufficient to fund development of your product candidates through regulatory approval and commercialization. Please revise to make this clear, if true, and disclose the amounts and sources of other funds needed to reach regulatory approval and commercialization for each product candidate. Refer to Instruction 3 to Item 504 of Regulation S-K.

Capitalization, page 42

7. Please ensure that the balance sheet information presented herein is consistent with your balance sheet presented on page F-12. In addition, ensure that the pro forma as adjusted table reflects the conversion of debt and common stock previously outstanding.

Management’s Discussion and Analysis of Financial Condition and Results of Operations

Results of operations

Comparison of Nine Months Ended September 30, 2015 and 2016, page 44

8. Please explain the factors underlying the significant changes in your line items on the financial statements. Identifying the types of costs that fluctuated between the periods does not appear sufficient to understand the changes in your operations.

Business, page 47

9. Please revise to provide a description of the clinical trials that you have conducted and their current status, including the primary purpose of the trials, when they were conducted, the number of patients, the primary and secondary endpoints, and whether such endpoints were achieved. In addition, please disclose the date the IND was filed and identify the applicable indication, or explain why an IND was not required for such trial.

Intellectual Property, page 54

10. Please revise your disclosure to identify the anticipated patent expiration dates and the type of patent protection, such as composition of matter, use, or process, for each of your patent applications.

Directors and Executive Officers, page 64

11. With respect to your officers and directors, please revise to discuss the specific experience, qualifications, attributes or skills that led to the conclusion that the person should serve as a director. See Item 401(e)(1) of Regulation S-K.
12. Please revise to expand and clarify the business experience during the past five years for Michael J. Starkweather. For instance, it appears that during that time period, Mr. Starkweather had been an officer and director of Golden Global Corporation and other entities, and we note from your website that he is a senior partner of a consulting firm he founded. See Item 401(e)(1) and (2) of Regulation S-K.
13. Please provide the disclosure required by Item 401(f)(1) with respect to Mr. Starkweather. In this regard, we note the Form 8-K filed on January 4, 2016.

Certain Relationships and Related Transactions, page 72

14. We note that Dale S. Bergman, a partner at the law firm that will be providing the legal opinion on the validity of the securities that are being registered, signed your Articles of Incorporation as the sole incorporator and thus appears to be a promoter as defined by Rule 405 of Regulation C. Please disclose this relationship and the nature and amount of anything of value received or to be received by him, directly or indirectly, and anything that you received from him. Please refer to Item 404(c) of Regulation S-K. In addition, please update your disclosure under the heading of Experts on page 78 to indicate that the counsel which will be providing the opinion of the validity of the securities being registered is a promoter. Please refer to Item 509 of Regulation S-K.

Financial Statements for the Fiscal Year Ended December 31, 2015

Notes to Financial Statements

Note 1 Nature of Organization

Operations, page F-7

15. Please disclose the significant terms of the option rights you acquired from Pola Pharma, including your rights and obligations, the costs you incurred under the agreement, exercise price. Also, please clarify if the option has been exercised. Refer to ASC 808-50-1.

Note 3 Summary of Significant Accounting Policies

Research and Development Expenses, page F-8

16. Please disclose the significant terms of all of the SBIR contracts, including:
- The duration of the contract;
 - The amount of the contract, including the maximum reimbursement available;
 - Description of how the reimbursement amount is determined;
 - Timing of the reimbursements;
 - The amount of reimbursement received as of the most recent balance sheet date;
 - The conditions of the contracts; and
 - Whether there is a repayment obligation.

Refer to ASC 730-20-50. In addition, please explain to us the basis for your accounting treatment for reimbursements. Please cite any applicable accounting literature used.

17. Please also disclose the significant terms of the collaboration agreement with Brown University – Lifespan/Rhode Island Hospital and Georgetown University. Refer to ASC 808-50-1.

Financial Statements for the Quarterly Period Ended September 30, 2016

Balance Sheets, page F-12

18. Please tell us why December 31, 2015 equity section presented herein and on page 12 does not agree to the information presented on page F-3.

Notes to Financial Statements

Note 3 Summary of Significant Accounting Policies

Income Taxes, page F-18

19. Since you state on page F-15 that you are no longer a LLC, but a corporation, please revise your disclosure accordingly.

Recent Sales of Unregistered Securities, page II-1

20. Please provide disclosure pursuant to Item 701 of Regulation S-K with respect to the shares issued in the conversion transaction that occurred in August 2016 as mentioned in Note (7) on page F-11, as well as any securities sold in the 2015 offering mentioned in Note (2) on page F-7.

Exhibits, page II-2

21. Please file as exhibits your agreement with Pola Pharmaceuticals, Inc., the SBIR contracts, and the agreement with Brown University – Lifespan/Rhode Island Hospital and Georgetown University. Refer to Item 601(b)(10) of Regulation S-K.

Other Comments

22. 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 our behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.
23. Please provide us proofs of all graphics, 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.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Refer to Rules 460 and 461 regarding requests for acceleration. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Anatoly Dritschilo, M.D.
Shuttle Pharmaceuticals, Inc.
January 7, 2017
Page 6

You may contact Keira Nakada at (202) 551-3659 or Mary Mast at (202) 551-3613 if you have questions regarding comments on the financial statements and related matters. Please contact Jeffrey Gabor at (202) 551-2544 or Mary Beth Breslin at (202) 551-3625 with any other questions.

Sincerely,

/s/ Mary Beth Breslin for

Suzanne Hayes
Assistant Director
Office of Healthcare and Insurance

cc: Dale S. Bergman, Esq.
Gutiérrez Bergman Boulris, PLLC