

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

October 4, 2024

Anatoly Dritschilo Chief Executive Officer Shuttle Pharmaceuticals Holdings, Inc. 401 Professional Drive, Suite 260 Gaithersburg, MD 20879

> Re: Shuttle Pharmaceuticals Holdings, Inc. Registration Statement on Form S-1 Filed September 20, 2024 File No. 333-282231

Dear Anatoly Dritschilo:

We have conducted a limited review of your registration statement and have the following comment.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe a comment applies 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 this letter, we may have additional comments.

Registration Statement on Form S-1

General

1. Please revise your registration statement as appropriate to provide clear and consistent disclosure of the nature and amount of securities being registered. In this regard, it appears that you are registering units, with each unit consisting of (i) a share of common stock plus a common warrant or (ii) for security holders who would exceed 4.99% beneficial ownership, a pre-funded warrant plus a common warrant. It further appears that, in addition to the units, you are registering the shares of common stock issuable upon exercise of the pre-funded warrants and the common warrants. However, the foregoing is not clear in the heading at the top of your prospectus cover page and is not addressed until the fourth paragraph of the prospectus cover page. Your revised disclosures, including the heading at the top of your prospectus cover page, should prominently and clearly identify the types of securities, and the number of each type of security, you are registering. Your revised disclosures should also clearly disclose the offering price per unit. Refer to Items

October 4, 2024 Page 2

501(b)(2) and (3) of Regulation S-K. In addition to your revisions on the prospectus cover page, please similarly revise your disclosures in "The Offering," "Description of Securities We are Offering," and "Plan of Distribution" sections beginning on pages 12, 95, and 97, respectively, as appropriate.

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.

Please contact Jessica Dickerson at 202-551-8013 or Joshua Gorsky at 202-551-7836 with any questions.

Sincerely,

Division of Corporation Finance Office of Life Sciences

cc: Megan J. Penick, Esq.