



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 4546

January 13, 2017

Michael D. Step
Chief Executive Officer
Ritter Pharmaceuticals, Inc.
1880 Century Park East #1000
Los Angeles, CA 90067

**Re: Ritter Pharmaceuticals, Inc.
Registration Statement on Form S-1
Filed December 16, 2016
File No. 333-215143**

Dear Mr. Step:

We have limited our review of your registration statement to those issues we have addressed in our 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.

General

1. In light of the previously registered resale offering by Aspire Capital of 1,577,699 shares of your common stock pursuant to a registration statement that was declared effective on February 11, 2016, please provide us with an analysis as to why you believe this offering is appropriately registered as an indirect primary offering in reliance on rule 415(a)(1)(i). Among other factors in your response, please address the aggregate size of the resale offerings that have been registered pursuant to this purchase agreement with Aspire compared to the number of shares of common stock held by non-affiliates. Please also tell us whether Aspire Capital has resold substantially all of the securities registered under your prior registration statement, and if so, the date of the most recent sale.

Selling Stockholder, page 49

2. Please revise your disclosure in this section to provide updated information with respect to the number of shares beneficially owned by Aspire Capital as of the most recent practicable date.

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 Dorrie Yale at 202-551-8776 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: Michael Sanders, Esq. — Reed Smith LLP