



DIVISION OF
CORPORATION FINANCE

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

April 6, 2015

Via E-mail

Michael D. Step
Chief Executive Officer
Ritter Pharmaceuticals, Inc.
1801 Century Park East #1820
Los Angeles, CA 90067

**Re: Ritter Pharmaceuticals, Inc.
Registration Statement on Form S-1
Filed March 23, 2015
File No. 333-202924**

Dear Mr. Step:

We have reviewed your registration statement and have the following comments. 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 Summary

1. Please revise the discussion in your prospectus summary to limit detailed technical discussion of the end points and results of your clinical trials for RP-G28 to the Business section of your prospectus. A general description of the key findings of the Phase 2 studies for RP-G28 is appropriate for a prospectus summary. In this regard, you should also remove the image of the principal component analysis reflected in Figure 1 to the Business Section where it can be explained in proper context.

Our Leading product Candidate – RP-G28, page 1

2. We note your revised disclosure in response to our prior comment 6. At your first reference to “p-values” please explain what such measures indicate about the statistical significance of the results obtained in clinical trials.

Business

Clinical Supply and Cooperation Agreement with Ricerche Sperimentali..., page 82

3. We note your revised disclosure in response to our prior comment 16. Please expand your disclosure to quantify the aggregate milestones you paid to RSM for its assistance in seeking the necessary regulatory approvals for RP-G28, including a payment upon the effective date of the Supply Agreement; and upon completions to your satisfaction of the drug master file submission to the FDA related to RP-G28. Also, please quantify the amount of aggregate milestones you are obligated to pay to RSM in the event you receive approval from the FDA to market RP-G28 or another product using Improved GOS.
4. Please revise to disclose the amount of the monthly fee payable to RSM following a Financing Receipt and how long you estimate paying this fee. Also, disclose, on separate basis by payment, the amounts payable to RSM to exercise the First and Second Option Payments. Further disclose what effect, if any, exercise of the First and/or Second Option Payments has on the monthly fee payable.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement, please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow

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adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Rolf Sundwall at (202) 551-3105 or Jim Rosenberg at (202) 551- 3679 if you have questions regarding comments on the financial statements and related matters. Please contact Johnny Gharib at (202) 551-3170, Bryan Pitko at (202) 551-3203 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Bryan J. Pitko for

Jeffrey P. Riedler
Assistant Director

cc: Via E-mail
Yvan-Claude Pierre, Esq.
Reed Smith LLP