



DIVISION OF
CORPORATION FINANCE

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

October 24, 2013

Via Email

Kaushik J. Dave
Chief Executive Officer
Actinium Pharmaceuticals, Inc.
501 Fifth Avenue, 3rd Floor
New York, NY 10017

**Re: Actinium Pharmaceuticals, Inc.
Registration Statement on Form S-1
Filed September 30, 2013
File No. 333-191468**

Dear Dr. Dave:

We have reviewed your registration statement and your letter dated September 30, 2013, 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. Where we reference prior comments, we are referring to our September 18, 2013 letter.

Prospectus Summary

The Offering, page 5

1. Please revise your use of proceeds discussion here to indicate, as you have on page 50, that you do not expect to receive any proceeds from the exercise of your outstanding B- warrants, Stock Offering warrants, consulting firm warrants, and placement agent warrants since these warrants contain cash-less exercise provisions.

Risk Factors

“The filing of our Registration Statement on Form S-1 on March 15, 2013 . . . ,” page 15

2. Your disclosure in this risk factor appears to limit the definition of the term “Share Exchange” to the acquisition by Cactus Ventures, Inc. on December 28, 2012 of “21% of the issued and outstanding capital stock of Actinium Corporation from [Actinium Shareholders]

in exchange for the issuance of 4,309,015 shares of Common Stock of the Company to the Actinium Shareholders.” You go on to disclose that “investors in the Share Exchange may potentially be entitled to bring suit against the Company for offering a non-exempt security without registering it, and such investor may be able to obtain rescission with interest, or damages if the investor sold the securities for less than he or she purchased them.” This disclosure suggests that only those investors who had exchanged their shares on December 28, 2012 may potentially be entitled to bring suit and obtain rescission or damages. Please expand your definition of “Share Exchange,” or otherwise revise the risk factor to clearly indicate that any Actinium Shareholder who exchanged his or her shares until September 30, 2013 may potentially have such rights; or tell us why you do not believe this would be the case.

Changes in Registrant’s Certifying Accountant, page 52

3. We note your revisions made in response to prior comment 4. Please make a similar revision to your disclosure in section (a) regarding disagreements and reportable events with respect to your former accountant.

Part II

Recent Sales of Unregistered Securities, page II-2

4. We note your disclosure that each of the offerings described in this section was made in reliance on Section 4(2) of the Securities Act and Rule 506 of Regulation D; that each purchaser in the offerings represented that he or she was an “accredited investor” as defined in Rule 501 of Regulation D; and that there were no non-accredited investors in any of the offerings. Please describe for us further what steps you took, if any, to establish a reasonable belief that every purchaser in these offerings was an accredited investor. In this regard, we note the relatively large number of selling shareholders and your disclosure that they received the shares being offered for resale in private placements by the company.

Exhibits

5. We note your discussion beginning on page 58 regarding your employment agreement with Dr. Dave. Please file the agreement as an exhibit to your registration statement. See Item 601(b)(10)(iii)(A) of Regulation S-K.

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

You may contact Melissa Feider, Staff Accountant, at (202) 551-3379 or Kathleen Collins, Accounting Branch Chief, at (202) 551-3499 if you have questions regarding comments on the financial statements and related matters. Please contact Luna Bloom, Staff Attorney, at (202) 551-3194 or me at (202) 551-3483 with any other questions. Should you require further assistance, you may contact Barbara C. Jacobs, Assistant Director, at (202) 551-3730.

Sincerely,

/s/ Katherine Wray

Katherine Wray
Attorney-Advisor

cc: Via E-Mail
Thomas Slusarczyk
Hiscock & Barclay, LLP