

Actinium Pharmaceuticals, Inc.
501 Fifth Avenue, 3rd Floor
New York, NY 10017

April 9, 2014

VIA EDGAR

Mark P. Shuman
Attorney-Advisor
Division of Corporation Finance
Securities and Exchange Commission
100 F Street N.E.
Washington, D.C. 20549

**Re: Actinium Pharmaceuticals, Inc.
Registration Statement on Form S-3
Filed March 24, 2014
File No. 333-194768
Form 10-K for the Fiscal Year Ended December 31, 2013
Filed February 28, 2014
File No. 000-52446**

Dear Mr. Shuman:

We are in receipt of your comment letter dated April 1, 2014 regarding the above referenced filings. As requested in your letter, we have provided responses to the questions raised by the staff. For your convenience, the matters are listed below, followed by Actinium Pharmaceuticals, Inc.'s (the "Company") responses:

Form S-3

Exhibit 5.1

1. Please file as exhibits forms of certificate of designation of preferred stock, warrant agreement and warrant certificate and unit agreement

RESPONSE: We have filed as exhibits the following forms: (i) Indenture (because debt securities were added to the registration statement), (ii) Common Stock Warrant Agreement and Certificate, (iii) Preferred Stock Warrant Agreement and Certificate, and (iv) Debt Securities Warrant Agreement and Certificate. As discussed with Mr. Crispino, we do not have forms of certificate of designation of preferred stock and unit agreement at this time.

Form 10-K

Item 9A. Controls and Procedures

2. We note that the company determined that its internal control over financial reporting as of December 31, 2013 was not effective because of the following two material weaknesses: (1) insufficient written policies and procedures for accounting and financial reporting and (2) ineffective controls over period end financial disclosure and reporting processes. Given the existence of these material weaknesses, please tell us how the company determined that it had effective disclosure controls and procedures for the same period.

RESPONSE: Due to an editorial error, we should have stated in the first paragraph, second sentence of "Item 9A. Disclosure Controls and Procedures" of the Form 10-K, that our disclosure controls and procedures were not effective as of December 31, 2013. We will file an amendment to our Form 10-K to correct this editorial error.

The Company acknowledges 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.

Sincerely,

Actinium Pharmaceuticals, Inc.

By: /s/ Kaushik J. Dave

Kaushik J. Dave

President and Chief Executive Officer
