

Mail Stop 4720

July 16, 2009

Brian M. Culley
Chief Business Officer and Senior Vice President
ADVENTRX Pharmaceuticals, Inc.
6725 Mesa Ridge Road, Suite 100
San Diego, CA 92121

**Re: ADVENTRX Pharmaceuticals, Inc.
Preliminary Proxy Statement
Filed July 7, 2009
File No. 001-32157**

Dear Mr. Culley:

We have limited our review of your filing to the issues we have addressed in our comments below. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comments are inapplicable or revision is unnecessary. Please be as detailed as necessary in your explanations.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Preliminary Proxy Statement filed July 7, 2009

Share Issuance and Use of Proceeds

1. Please revise your disclosure to clearly indicate the number of shares you anticipate issuing in the public offering first discussed on page 5 of the filing. Please also include a discussion of the anticipated use of proceeds to be received in such offering.

Authorized Shares

2. Please revise your disclosure to describe any plans, arrangements or understandings relating to the issuance of any of the newly authorized shares that

would be available as a result of the proposed reverse stock split and the proposed increase in authorized shares. If you have no such plans, arrangements or understandings, please revise your disclosure to so state.

3. Please revise your disclosure to provide a discussion as to whether the company's authorized shares will be proportionately reduced as a result of the proposed reverse stock split and to quantify the number of shares that will be authorized following the proposed increase in authorized shares and the reverse stock split given both a 2:1 reverse split and a 50:1 reverse split.

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As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your response to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and response to our comments.

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 all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

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Please contact Laura Crotty at (202) 551-3563 or Suzanne Hayes, Legal Branch Chief, at (202) 551-3675 with any questions.

Sincerely,

Jeffrey P. Riedler
Assistant Director