



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 4720

March 14, 2011

Mr. Patrick L. Keran
President and Chief Operating Officer
ADVENTRX Pharmaceuticals, Inc.
12390 El Camino Real, Suite 150
San Diego, California 92130

**Re: ADVENTRX Pharmaceuticals, Inc.
Registration Statement on Form S-1
Post-effective amendment no. 2
Filed March 10, 2011
File No. 333-160778**

Dear Mr. Keran:

We have limited our review of your filing to the issues we have addressed in the following comments.

Please respond to this letter by amending your post-effective amendment. If you do not believe that our comment applies to your facts and circumstances, or do not believe further action is appropriate, please tell us why in your response letter.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Post-effective amendment

General

1. We note your post-effective amendment consists of a two-page prospectus supplement, the incorporation by reference of your most recent Form 10-K and Form 8-Ks, and advice to potential investors that they should read, in conjunction with the aforementioned documents, ten additional prospectus supplements. Instead of referring to prospectus supplements, please revise the post-effective amendment to actually provide the information requested by Items 3-10 to the extent the information requested by these items is still applicable and not already included in the Form 10-K incorporated by reference.

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Incorporation by Reference of Certain Documents, page 2

2. We note your post-effective amendment incorporates by reference information from your annual report on Form 10-K for the year ended December 31, 2010. This filing does not contain information in Part III that is required by Form 10-K. Prior to requesting acceleration of effectiveness of the subject post-effective amendment, please amend your Form 10-K filing to include Part III information or file the definitive proxy statement to incorporate this information into your filing.

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 Act of 1933 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.

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

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

If you have any questions, please call John L. Krug, Senior Counsel, at (202) 551-3862, or me at (202) 551-3715.

Sincerely,

Jeffrey Riedler
Assistant Director

cc: Michael S. Kagnoff, Esq.
DLA Piper LLP
4365 Executive Drive, Suite 1100
San Diego, California 92121