

AUGUST 8, 2005

VIA EDGAR AND FACSIMILE ((202) 772-9217)

Jeffrey Riedler, Esq.
Assistant Director
Securities and Exchange Commission
100 F Street, N.E.
Washington, DC 20549

RE: ADVENTRX PHARMACEUTICALS, INC.
FORM 10-KSB FOR THE YEAR ENDED DECEMBER 31, 2004
PROXY STATEMENT FILED MAY 20, 2005
FILE NO. 1-32157

Dear Mr. Riedler:

We are responding to the staff's July 28, 2005 comment letter in the above matter. Our responses are keyed to each comment with each comment IN BOLD and our response in a bullet point after the comment. Also, we have attached pages from our proposed Amendment No. 1 to the 10-KSB for 2004, marked to reflect the changes we propose to make (subject to staff review) in response to these comments. We will file Amendment No. 1 by Edgar once we hear that the staff has no additional comments.

FORM 10-KSB

RISK FACTORS, page 19

1. MANY OF YOUR RISK FACTORS COULD APPLY TO ANY ISSUER. PLEASE ENSURE THAT ALL RISK FACTORS IN YOUR FILING DESCRIBE YOUR COMPANY'S CIRCUMSTANCES WITH SPECIFICITY. WE NOTE THE FOLLOWING EXAMPLES:
 - o IN "IT IS UNCERTAIN THAT WE WILL HAVE ACCESS TO FUTURE CAPITAL OR GOVERNMENT GRANTS" ON PAGE 19, PLEASE DESCRIBE THE DIFFICULTIES YOU WOULD NEED TO OVERCOME TO OBTAIN A GOVERNMENT GRANT.
 - > we will delete the reference to government grants which are not a source of funding on which we rely or on which we presently plan to rely in the future.

- o "WE ARE NOT CERTAIN THAT WE WILL BE SUCCESSFUL . . ." ON PAGE 19, PLEASE DESCRIBE ANY MATERIAL DELAYS OR DIFFICULTIES YOUR PRODUCTS HAVE EXPERIENCED IN THE DEVELOPMENT PROCESS.
 - > we will enhance the disclosure to include delays due to lack of funding in the past and manufacturing delays. While we have not yet experienced manufacturing delays of commercial volumes of our product, we are faced with challenges relating to developing the manufacturing process to produce sufficient quantities of our drugs to be used in preclinical and clinical trials.
- o IN "WE WILL FACE INTENSE COMPETITION FROM OTHER COMPANIES IN THE PHARMACEUTICAL INDUSTRY" ON PAGE 20, PLEASE IDENTIFY YOUR PRINCIPAL COMPETITORS AND THEIR PRODUCTS THAT COMPETE WITH YOURS.
 - > we will identify principal competitors and the competing product.
- o IN "UNCERTAINTIES RELATED TO HEALTH CARE REFORM MEASURES MAY AFFECT OUR SUCCESS" ON PAGE 21, PLEASE IDENTIFY ANY REFORM PROPOSALS THAT WOULD MATERIALLY AFFECT ON YOUR BUSINESS, AND STATE WHERE THESE PROPOSALS STAND IN THE ENACTMENT PROCESS.
 - > we know of no current such proposals. We have revised this risk factor accordingly.
- o IF YOU HAVE RECEIVED NOTICE OF ANOTHER COMPANY'S BELIEF THAT YOU ARE INFRINGING THEIR PATENT, OR IF YOU HAVE NOTIFIED ANOTHER COMPANY OF YOUR BELIEF THAT THEY ARE INFRINGING ON YOUR PATENTS, PLEASE DESCRIBE THE SITUATION AND POTENTIAL CONSEQUENCES IN "PROTECTING OUR PROPRIETARY RIGHTS IS DIFFICULT AND COSTLY" ON PAGE 23.
 - > there are no such pending infringement matters. We have modified the risk factor accordingly.
- o PLEASE IDENTIFY THE KEY PERSONNEL YOU REFER TO IN "OUR SUCCESS IS DEPENDENT ON OUR KEY PERSONNEL" AND "WE MAY BE UNABLE TO RETAIN SKILLED PERSONNEL AND MAINTAIN KEY RELATIONSHIPS" ON PAGE 23, AND STATE WHETHER YOU HAVE WRITTEN EMPLOYMENT AGREEMENTS WITH THESE INDIVIDUALS.
 - > we will delete the risk factor "OUR SUCCESS IS DEPENDENT ON OUR KEY PERSONNEL" as no single employee or group of employees is incapable of being replaced, and we will revise the other risk factor.

WITH THE ABOVE GUIDANCE IN MIND, PLEASE RE-EVALUATE ALL RISK FACTORS AND TAILOR THEM MORE TO YOUR COMPANY.

- > we have re-evaluated all risk factors and made the following changes in response to this comment:
 - o deleted the risk factor entitled "Insurance coverage is increasingly more difficult to obtain or maintain" since much the same subject matter is covered in the succeeding risk factor.
 - o deleted the risk factor entitled "We are not paying dividends on our Common Stock" since stockholders should be aware they are not receiving dividends and our dividend policy is already stated in Part II, Item 5 of the 10-KSB.
 - o deleted the risk factor entitled "The issuance of shares of our Preferred Stock may adversely affect our Common Stock" since this is a standard risk of all companies and is not specific to us.
 - o deleted the risk factor entitled "Under provisions of our certificate of incorporation, bylaws and Delaware law, our management may be able to block or impede a change in control," since that type of disclosure describes standard provisions in the certificates of incorporation of many Delaware companies and is not material to the other disclosures in the 10-KSB.
 - o deleted the risk factor entitled "Officers' and directors' liabilities are limited under Delaware law," since that risk factor simply describes a provision of Delaware law which is a standard provision in the certificates of incorporation of many Delaware companies, and is not material to the other disclosures in the 10-KSB.

POWER OF ATTORNEY, PAGE 35

2. WE NOTE THE FILING DOES NOT INCLUDE THE SIGNATURE OF YOUR CONTROLLER OR PRINCIPAL ACCOUNTING OFFICER. PLEASE INCLUDE THIS SIGNATURE IN AN AMENDED FORM 10-KSB. IF CARRIE CARLANDER, THE CFO, ALSO SERVES AS THE CONTROLLER OR PRINCIPAL ACCOUNTING OFFICER, HER SIGNATURE SHOULD BE CAPTIONED AS SUCH IN YOUR AMENDED FILING. SEE GENERAL INSTRUCTION C.2 OF FORM 10-KSB.

- > At the time our 10-KSB was filed, Ms. Carlander was operating as both our CFO and our principal accounting officer. We will include a signature page in Amendment No. 1 to the Form 10-KSB which will indicate her current status as CFO and her status as CFO and principal accounting officer at the time of the original filing of the 10-KSB.

PROXY STATEMENT

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, PAGE 12

3. IT APPEARS YOU DID NOT FILE AS AN EXHIBIT YOUR AGREEMENT WITH BURNHAM HILL PARTNERS. PLEASE FILE THIS AGREEMENT WITH YOUR AMENDED FORM 10-KSB. SEE ITEM 601(b)(10)(i)(A) OF REGULATION S-B.

> We will file the Burnham Hill Partners agreement as an exhibit to Amendment No. 1

The Company acknowledges the following:

- o the Company is responsible for the adequacy and accuracy of the disclosure in the above-referenced filings;
- o 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
- o 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.

Please call the undersigned at (858) 552-0866 or Henry D. Evans, Esq. of Bingham McCutchen LLP at (415) 393-2503, or Venrice R. Palmer, Esq. of that office at (415) 393-2036, the Company's outside counsel, if you have any questions concerning this response.

Sincerely,

/s/ Evan Levine
Evan Levine
Chief Executive Officer

cc: Gregory S. Belliston, Esq. (by facsimile)
Division of Corporation Finance

Henry D. Evans, Esq. (by facsimile)
Bingham McCutchen LLP

Venrice R. Palmer, Esq. (by facsimile)
Bingham McCutchen LLP