

Mail Stop 4720

October 7, 2009

Robert Forrester
Interim President and Chief Executive Officer
CombinatoRx, Incorporated
245 First Street, Third Floor
Cambridge, Massachusetts 02142

**Re: CombinatoRx, Incorporated
Registration Statement on Form S-4/A
Filed September 16, 2009
File No. 333-161146**

Dear Mr. Forrester:

We have reviewed your amended filing together with the response letter sent by your counsel dated September 16, 2009 and have the following comments. 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 comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

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.

Registration Statement on Form S-4/A

Background of the Merger, page 69

1. We note your response to Comment 27 and revised disclosure. Please advise us of the updated information about the Synavive data received by the board on

October 16, 2008. To the extent that the October 16, 2008 update included any materially new information not previously considered by the board of directors, please revise your disclosure accordingly.

Opinion of CombinatoRx's Financial Advisor, page 91

Discounted Cash Flow Analysis, page 95

2. We note your response to Comment 33. Please list the comparable public companies identified by your financial advisor and provide the financial advisor's basis for believing these companies are comparable to you.

Neuromed's Reasons for the Merger, pages 96-98

3. We note your response to Comment 35. In your disclosure concerning material risks Neuromed considered, the only liabilities specified are your lease obligations. Please provide the basis for believing that your lease obligations are the only material liabilities Neuromed had to assess in choosing to proceed with the merger, particularly since your lease obligations represented less than half of your current liabilities in the last fiscal year.

Opinion of Neuromed's Financial Advisor, page 99

4. We note your response to Comment 45. Please explain how Evans & Evans derived the range of discount rates of 30% to 35%.

Neuromed's Analysis, page 105

5. We note your response to Comment 47. Please specify the point of value at which each class of shares would participate in future returns.

Material United States Federal Income Tax Consequences of the Merger, page 107

Treatment of Merger as a "Reorganization" under Section 368(a), page 108

6. We note your response to Comment 50. Please state that you are unable to opine on the tax consequences of the merger if it does not qualify as a reorganization under Section 368(a) of the Internal Revenue Code.

CombinatoRx's Principal Shareholders, page 205

7. We note your response to Comment 52. Please specify the individual or individuals at Partners and BVF Inc. who share voting and dispositive power over the shares they are deemed to beneficially own.

* * *

As appropriate, please amend your registration statement in response to these comments. 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 responses 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 responses 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 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 the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, 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.

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 connection with our review of your filing or in response to our comments on your filing.

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. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

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We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact James Peklenk at (202) 551-3661 if you have questions regarding comments on the financial statements and related matters. Please contact Scot Foley at (202) 551-3383 or me at (202) 551- 3715 with any other questions.

Sincerely,

Jeffrey Riedler
Assistant Director

cc: Stuart M. Cable, Esq.
Joseph L. Johnson III, Esq.
Art McGivern, Esq.
Goodwin Procter LLP
53 State Street
Boston, Massachusetts 02109