

Mail Stop 6010

March 24, 2008

Francis E. O'Donnell, Jr., M.D.
Chief Executive Officer
Accentia Biopharmaceuticals, Inc.
324 South Hyde Park Avenue, Suite 350
Tampa, Florida 33606

**Re: Accentia Biopharmaceuticals, Inc.
Registration Statement on Form S-3
Filed February 4, 2008
File No. 333-149045**

Dear Dr. O'Donnell, Jr.:

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

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.

General

1. We have considered your letter dated March 11, 2008, relating to your registration statement number 333-149045. Our concern relates to registration of large amounts of common stock underlying convertible securities relative to common shares held by non-affiliates. This concern applies to all convertible securities, including preferred securities and convertible debentures.

Our position that your transaction appears to be a primary offering is based on the number of common shares being registered for resale and the number of shares previously registered on behalf of the same selling shareholders relative to the number of shares outstanding that are held by non-affiliates. Based on these facts

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and circumstances, we continue to believe that your offering appears to be a primary offering.

In instances where a registrant has multiple resale registration statements, we will treat a registration statement as a transaction separate from other registration statements if the registration statement registers securities by a selling shareholder after the later of:

- 60 days after the time that the selling shareholder and its affiliates have resold substantially all the securities registered for sale under a prior registration statement; or
- Six months after the effective date of the prior registration statement for the same selling shareholder or its affiliates.

Given that your registration statement registers shares for selling shareholders that were selling shareholders in prior registration statements who have not sold substantially all of the shares previously registered, we continue to believe it is appropriate to aggregate this offering with the previous offerings. Since the number of shares registered in the previous offerings constitutes such a large percentage of the shares held by non-affiliates, we consider this offering to be a primary offering.

Please revise to identify the selling shareholders as underwriters and set a price for your offering. Alternatively, you may register the resale of the common stock upon the exercise of warrants and conversion of the preferred stock.

* * *

Please contact Sebastian Gomez Abero at (202) 551-3578, Suzanne Hayes, Legal Branch Chief, at (202) 551-3675 or me at (202) 551-3715 with any questions.

Sincerely,

Jeffrey P. Riedler
Assistant Director

cc: Barry I. Grossman, Esq.
David Selengut, Esq.
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