

Mail Stop 6010

August 27, 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
Response letter filed August 21, 2008
File No. 333-152148**

Dear Dr. O'Donnell:

This is to advise you that we have limited our review of the above referenced registration statement to the issues identified below. We will make no further review of this filing.

Each of our comments requests that you revise your filing to provide additional disclosure about the selling security holders or the transaction or transactions in which they purchased the registrant's securities. We will consider your supplemental explanation if you believe a comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation.

1. Please file an amendment to the Form S-3 that reflects the changes you have proposed to make in your response letters filed as CORRESP. Please note that we may have further comments upon review of your amendment.
2. Please confirm to us that your responses to our prior comments 1 and 5 supplement the information you provided to us in your July 23, 2008 response and are not intended to replace your prior responses.
3. We note your response to our prior comment 2. Please provide us an explanation of how you have calculated the percentages in your response.
4. We note your response to our prior comment 6. Given the aggregate size of the offering being registered on this registration statement and your April 2008 registration statement relative to the number of shares outstanding held by persons other than the selling

shareholders and affiliates, the nature of the offering and the selling shareholders, the transaction appears to be a primary offering. Because you are not eligible to conduct a primary offering on Form S-3, you are not eligible to conduct a primary at-the-market offering under rule 415(a)(4).

Unless you revise the nature and/or size of this offering, you will need to do the following:

- file a registration statement for the “resale” offering at the time of each conversion or exercise because you are not eligible to conduct the offering on a delayed or continuous basis under Rule 415(a)(1)(x);
- register the transaction on the form you are eligible to use to register the transaction as a primary offering (Form S 1);
- identify the selling shareholders as underwriters in the registration statement; and
- include the price at which the underwriters will sell the securities.

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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 filings reviewed by the staff to be certain that they have provided all information investors require for an informed 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 this action 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 a 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.

Please contact Sonia Barros at (202) 551-3655 or Michael Reedich at (202) 551-3612 with any questions.

Sincerely,

Jeffrey P. Riedler
Assistant Director

cc: Barry I. Grossman, Esq.
David Selengut, Esq.
Ellenoff Grossman & Schole LLP
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