



DIVISION OF
CORPORATION FINANCE

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

February 1, 2011

Declan Daly
Chief Financial Officer
Fibrocell Science, Inc.
405 Eagleview Boulevard
Exton, Pennsylvania 19341

**Re: Fibrocell Science, Inc.
Registration Statement on Form S-1
Filed November 18, 2010
Amendment No. 1 to Registration Statement on Form S-1
Filed January 18, 2011
File No. 333-170688**

Dear Mr. Daly:

We have reviewed your January 18, 2011 amendment and response to our December 8, 2010 comment letter and have the following additional comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by providing the requested information. Where you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

General

1. Please confirm that you will revise your registration statement to include all tabular disclosure provided in response to each of our prior comments, including any narrative information necessary to understand the information contained therein, prior to the effective time of the registration statement.
2. We note that you will provide us with information regarding any relationship among the selling stockholders, as requested by our prior comment 1, and the information requested by our prior comment 9 at a later time. Please be advised that we may have additional comments based on the information provided.
3. Please revise the table provided in response to our prior comment 1 to include the percentage of the overall offering made by each selling shareholder.
4. We note the tabular disclosure provided in response to our prior comments 4, 5 and 6. Please further revise each table to include a final column reflecting the total possible

discount to market price calculated using the new conversion price of \$0.50 per share which resulted from the anti-dilution adjustment.

5. Footnotes 1 and 2 to the table provided in response to our prior comment 6 state that the amounts disclosed in the table are based on a common stock price of \$0.45 per share. Please advise us of your basis for providing the information based on this per share price.
6. In your response to our prior comment 10 you indicate that copies of the company's placement agent agreements are attached as Exhibit A; however, no Exhibit A has been attached to your response letter. Please file Exhibit A with your next response letter.

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 the information the Securities Act of 1933 and all applicable Securities Act rules require. 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 statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

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Please contact Laura Crotty at (202) 551-3563 or me at (202) 551-3715 with any other questions.

Sincerely,

Jeffrey P. Riedler
Assistant Director

cc: Cavas S. Pavri, Esq. (Cozen O'Connor)