



DIVISION OF
CORPORATION FINANCE

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

January 7, 2013

Via E-mail

Mr. Declan Daly
Chief Financial Officer, Chief Operating Officer and Controller
Fibrocell Science, Inc.
405 Eagleview Boulevard
Exton, PA 19341

**Re: Fibrocell Science, Inc.
Registration Statement on Form S-3
Filed December 13, 2012
File No. 333-185466**

Dear Mr. Daly:

We have limited our review of your registration statement to those issues we have addressed in our 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 amending your registration statement and providing the requested information. Where you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Registration Statement on Form S-3

1. Please revise your disclosure throughout the filing to indicate the total number of shares that are being registered and offered pursuant to each of the two registration statements filed on December 13, 2012 (in addition to the instant registration statement, File No. 333-185463) and the four registration statements filed on September 7, 2012 (File Nos. 333-183791, 333-183792, 333-183793 and 333-183794) in the aggregate.

Prospectus Summary, page 1

2. Please expand your disclosure in this section to disclose the aggregate number of shares that could be issued under all existing conversion rights and pursuant to all outstanding options or warrants, the number of such shares in the aggregate registered for resale, and the potential adverse effects on the market that may result upon exercise of all such right and/or resale of all such shares.

Selling Security Holders, page 6

3. Please refer to each of the two registration statements filed on December 13, 2012 (in addition to the instant registration statement, File No. 333-185463) and the four registration statements filed on September 7, 2012 (File Nos. 333-183791, 333-183792, 333-183793 and 333-183794). Please expand your disclosure to add a separate table which identifies Selling Stockholders that will register shares for resale pursuant to two or more registration statements and indicates the total number of shares to be offered for resale in the aggregate and the resulting approximate percentage of shares to be owned after the offering assuming resale of the aggregate amount to be offered.

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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You may contact Rose Zukin at (202) 551-3239 or me at (202) 551-3710 with any questions.

Sincerely,

/s/ Jeffrey P. Riedler

Jeffrey P. Riedler
Assistant Director

cc: Cavas S. Pavri, Esq.
Cozen O'Connor
1900 Market Street
Philadelphia, PA 19103