



DIVISION OF  
CORPORATION FINANCE

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

October 24, 2014

Via E-mail

Dr. Paul K. Wotton  
President and Chief Executive Officer  
Advanced Cell Technology, Inc.  
33 Locke Drive  
Marlborough, Massachusetts 01752

**Re: Advanced Cell Technology, Inc.  
Registration Statement on Form S-3  
Filed October 14, 2014  
File No. 333-199309**

Dear Dr. Wotton:

We have limited our review of your registration statement to resolution of the issues addressed in our comment letter dated October 22, 2014 regarding your Form S-3 (file no. 333-199311) filed on October 14, 2014 and the issues we have addressed in our comments below.

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 our comments, we may have additional comments.

General

1. We note that the 3,000,000 shares of common stock being registered for resale under this registration statement are not yet authorized and may not be sold to Lincoln Park until the necessary amendment to your Certificate of Incorporation to increase the number of authorized shares is approved by your stockholders at your meeting to be held on November 12, 2014. Accordingly, please provide us with an analysis as to why it is appropriate to register the offering of shares of common stock that have not yet been authorized for issuance.

This Offering, page 6

2. We note your disclosure in the second paragraph on page 6 which states that as of September 30, 2014, you have issued a total of 2,606,007 shares of common stock to Lincoln Park under the Purchase Agreement. We also note your disclosure in the third

paragraph on page 6 which states that as of September 30, 2014, you have issued 1,273,241 shares of common stock to Lincoln Park under the Purchase Agreement for total proceeds of \$9,756,895.54. Please revise your disclosure to provide the correct number of shares of common stock that have already been issued to Lincoln Park under the Purchase Agreement.

Exhibit 5.1 Legal Opinion

3. We note that your legal opinion assumes that after issuance of the shares of common stock offered pursuant to the registration statement, the total number of outstanding shares will not exceed the number of authorized shares. Please revise the legal opinion to remove this assumption as it is not appropriate to assume that the registrant has a sufficient amount of authorized shares. Please see Section II(B)(3)(a) of Staff Legal Bulletin No. 19 for guidance.

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.

Dr. Paul K. Wotton  
Advanced Cell Technology, Inc.  
October 24, 2014  
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Please contact Johnny Gharib at (202) 551-3170, Bryan Pitko at (202) 551-3203 or me at (202) 551-3715 with any questions.

Sincerely,

/s/ *Bryan J. Pitko* for

Jeffrey P. Riedler  
Assistant Director

cc: Via E-mail  
Mitchell S. Bloom, Esq.  
Goodwin Proctor LLP