



DIVISION OF  
CORPORATION FINANCE

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

March 22, 2011

Mr. Gary Rabin  
Principal Executive Officer, Financial Officer, and  
Accounting Officer  
Advanced Cell Technology, Inc.  
33 Locke Drive  
Marlborough, Massachusetts 01752

**Re: Advanced Cell Technology, Inc.  
Registration Statement on Form S-1  
Amendment no. 1 filed March 18, 2011  
File No. 333-172258**

Dear Mr. Rabin:

We have reviewed your amended registration statement and response letter dated March 18, 2011 and have the following comments.

Please respond to this letter by amending your registration statement and providing the requested information. If 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.

**FORM S-1**

**Notes Transaction, page 7**

1. We note your response to comment 2 and the revision that the prospectus includes 1,899,874 shares of common stock underlying warrants, however the list that follows such disclosure includes more than 1,899,874 shares. Please advise or revise.
2. If applicable, please update the disclosure relative to the extension of the warrant termination date. In addition, since extension of the termination date appears to be within your control, please tell us the reason for the delay.

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

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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.

Please contact John Krug, Senior Counsel, at (202) 551-3862, or me at (202) 551-3715 with any questions.

Sincerely,

Jeffrey Riedler  
Assistant Director

cc: Thomas A. Rose, Esq.  
Sichenzia Ross Friedman Ferrence LLP  
61 Broadway, 32<sup>nd</sup> Floor  
New York, New York 10006