



DIVISION OF
CORPORATION FINANCE

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

December 29, 2010

Mr. Ray Wood
Chief Financial Officer
International Stem Cell Corporation
2595 Jason Court
Oceanside, CA 92056

**Re: International Stem Cell Corporation
Registration Statement on Form S-1
Filed December 17, 2010
File No. 333-171233**

Dear Mr. Wood:

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.

The Offering, page 2

1. You disclose that as of December 13, 2010, there were 68,323,312 shares of common stock outstanding that are held by non-affiliates. You also disclose that if all of such 20,500,000 shares of common stock offered on this registration statement were issued and outstanding, such shares would represent 23.08% of the non-affiliate shares of common stock outstanding. The number of shares outstanding that are held by non-affiliates does not appear to be consistent with the disclosure regarding shares held by affiliates in your beneficial ownership table on page 22 of your definitive proxy statement filed on March 30, 2010. Please provide us with a detailed explanation of your calculation of the percentage of shares of your non-affiliated shares outstanding together with an explanation of any significant changes in your beneficial ownership from the table included in your definitive proxy statement filed March 30, 2010. We may have further comments after we review your response.

Incorporation of Certain Information by Reference, page 21

2. You disclose on page 12 that as long as the trading price of your common stock is below \$5.00 per share, the open-market trading of your common stock will be subject to the “penny stock” rules, unless you otherwise qualify for an exemption from the “penny stock” definition. If your common stock is subject to the “penny stock” rules, please revise your registration statement to disclose all the required information which you incorporate by reference in this section as you are not eligible to incorporate such information if this is an offering of “penny stock”. See General Instruction VII.D.1.(c) of Form S-1. If you believe your common stock is not a “penny stock”, please provide us with a detailed analysis which supports your conclusion.

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.

Mr. Ray Wood
International Stem Cell Corporation
December 29, 2010
Page 3

Please contact Jennifer Riegel at (202) 551-3575 or me at (202) 551-3715 with any questions.

Sincerely,

Jeffrey Riedler
Assistant Director

cc: Douglas Rein
DLA Piper LLP (US)
4365 Executive Drive, Suite 1100
San Diego, CA 92121-2133