



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

DIVISION OF  
CORPORATION FINANCE

May 30, 2014

Via E-mail

Mr. Samuel D. Riccitelli  
President and Chief Executive Officer  
Signal Genetics LLC  
667 Madison Avenue, 14<sup>th</sup> Floor  
New York, New York 10065

**Re: Signal Genetics LLC  
Amendment No. 3 to Registration Statement on Form S-1  
Filed May 27, 2014  
File No. 333-194668**

Dear Mr. Riccitelli:

We have reviewed your amended registration statement and have the following comments. In 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. 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.

Summary Historical Consolidated Financial Data, page 11

1. We note in response to comment one in our letter dated May 22, 2014 that you expanded your disclosures to include pro forma balance sheet and net loss per share data for fiscal year ended 2013 in your financial statements. However, you have not provided pro forma net loss and the basic and diluted net loss per share for fiscal year ended 2013 and the interim period ended March 31, 2014 in your summary historical consolidated financial data section. Please revise your amendment accordingly.

Consolidated Statements of Operations, page F-13

2. We note in response to comment one in our letter dated May 22, 2014 that you added pro forma net loss per share as \$0.96 for the year ended December 31, 2013. We also note that you recorded a net loss and not net income for the year ended

Samuel D. Riccitelli  
Signal Genetics LLC  
May 30, 2014  
Page 2

December 31, 2013. Please revise pro forma net loss per share to (\$0.96) for the year ended December 31, 2013.

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.

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.

You may contact Joanna Lam, Staff Accountant, at (202) 551-3476 or Nasreen Mohammad, Assistant Chief Accountant, at (202) 551-3773 if you have questions regarding comments on the financial statements and related matters. Please contact Erin Wilson at (202) 551-6047 or Pamela Howell at (202) 551-3357 with any other questions.

Sincerely,

/s/ Pamela Howell  
for

John Reynolds  
Assistant Director