



DIVISION OF
CORPORATION FINANCE

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

January 14, 2014

Via E-mail

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

**Re: Signal Genetics LLC
Amendment No. 1 to Draft Registration Statement on Form S-1
Submitted December 30, 2013
CIK No. 0001590750**

Dear Mr. Riccitelli:

We have reviewed your amended draft registration statement and have the following 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 providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. 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 the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Inside Front Cover Page, page ii

1. We note your revised disclosure in response to comment 8 of our letter dated December 6, 2013 and we partially reissue the comment. Please add disclosure confirming the company is responsible for all the disclosure in the prospectus.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 52

Critical Accounting Policies, page 54

2. We note that your response to prior comment 13 disclosing A/R from non-contracted insurance companies represents 77% and 60% of gross A/R at 9/30/13 and 12/31/12 respectively. We also note that \$1.2 million, 69% of gross A/R at 9/30/13 is aged greater

than 90 days. Please discuss the methods, assumptions and estimates used in recording contractual allowance from non-contracted insurance companies. Also, please discuss your historical percentage of collection from this group, why there is such a large-balance greater than 90 days. Please provide further analysis of the lag-time in collections for this group.

3. We note your response to comment 17 that you have not provided disclosures about the delay in adoption of new or revised accounting standards in your significant accounting policies footnotes as you have not, to date, delayed the adoption of any accounting standards. Please expand your disclosures on page 8, 43 and 61 of your amended registration statement to indicate the adoption date and include similar disclosures about the delay in adoption of new or revised accounting standards in your significant accounting policies footnotes.

Business, page 62

Relationship with University of Arkansas, leader and in the study and treatment of MM, page 70

4. We note the statement added on page 71 in response to comment 19 of our letter dated December 6, 2013. Please revise the disclosure in this section to clearly state percent of revenues attributable to UAMS.

Management, page 88

5. We note the lack of disclosure regarding employment for Douglas Schuling after May 2011. Please revise to disclose any positions held from that time until present. If no positions were held, so state.

Executive Compensation, page 92

6. We note the response to comment 31 of our letter dated December 6, 2013 that you do not have an employment agreement with Mr. Johnson. Please disclose whether you have any compensation arrangements or agreements, written or otherwise, with Mr. Johnson. If so, please discuss the material terms.

Security Ownership of Certain Beneficial Owners and Management, page 98

7. We note the disclosure added to footnotes one and two that the amounts do not include shares that have not vested. Please reconcile with the disclosure in footnote one that these amounts include options that are exercisable within 60 days. Please advise or revise.

Certain Relationships and Related Transactions, page 99

8. We note your revised disclosure in response to comment 33 of our letter dated December 6, 2013 and we reissue the comment. Please revise to name the guarantors of the guaranty and security agreement. See Item 404(a) of Regulation S-K.
9. We note the disclosure that you have repaid principal and interest on the Secured Demand Promissory Note from borrowing from another entity controlled by Mr. LeBow. Please add disclosure regarding this and any other additional borrowings from related parties, as required by Item 404 of Regulation S-K.

Financial Statements

Notes to Consolidated Financial Statements, page F-7

Summary of Significant Accounting Policies, page F-7

10. We note your response to prior comment 36 stating zero allowance for doubtful accounts was recorded based on aging of A/R and historical collection experience. Your A/R schedule shows 69% of gross A/R is greater than 90 days old. Please further explain your disclosure that you have not had any bad debts from any of your contracted customers or noncontracted insurance companies. Please clarify if your policy is the same for contracted customers and noncontracted insurance companies and at what point you would write off A/R, your policy on pursuing appeals, reconsideration of claims denied and what methods and procedures were used to determine zero allowance for doubtful accounts.
11. We note your response to prior comment 38. Please explain how the contractual allowance recorded for revenue for the year ended December 31, 2012 of \$2M reconciles with the contractual allowance balance in your A/R aging schedule of \$608,467 at December 31, 2012.
12. We note your response to prior comment 39 disclosing the amount of contractual allowances recorded for non-contracted payors is \$2 million and \$1.3 million for the years ended December 31, 2012 and December 31, 2011, respectively. We also note your aging schedule of A/R showing \$1.4 million balance of which \$1.2 million is greater than 90 days as of September 30, 2013. Please provide a detailed analysis of your historical collection patterns for these payors. Please further explain how you have determined that revenue estimated for non-contracted payors is deemed to be fixed and determinable.

Research and Development, page F-9

13. We note your response to prior comment 40 and understand that you have not included an allocation of any indirect costs in research and development. FASB ASC paragraph ASC 730-10-25-2(e) requires that research and development costs shall include a reasonable allocation of indirect costs. Tell us why you believe this guidance does not apply to you.

Part II

Exhibits

14. Exhibits 10.9 and 10.11 appear to be missing exhibits, schedules and/or attachments. Please file each agreement in its entirety, as required by Item 601(b)(10) of Regulation S-K.

General

If you intend to respond to these comments with an amended draft registration statement, please submit it and any associated correspondence in accordance with the guidance we provide in the Division's October 11, 2012 announcement on the SEC website at <http://www.sec.gov/divisions/corpfin/cfannouncements/drsfilingprocedures101512.htm>.

Please keep in mind that we may publicly post filing review correspondence in accordance with our December 1, 2011 policy (<http://www.sec.gov/divisions/corpfin/cfannouncements/edgarcorrespondence.htm>). If you intend to use Rule 83 (17 CFR 200.83) to request confidential treatment of information in the correspondence you submit on EDGAR, please properly mark that information in each of your confidential submissions to us so we do not repeat or refer to that information in our comment letters to you.

You may Joanna Lam 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