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

FORM 10-Q

☑ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Quarterly Period Ended June 30, 2014

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Transition Period from ___ to ___

Commission File Number 001-36483

SIGNAL GENETICS, INC.
(Exact name of Registrant as specified in its Charter)

Delaware	**47-1187261**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
667 Madison Avenue, 14th Floor New York, New York	**10065**
(Address of principal executive offices)	(Zip Code)

Registrant's Telephone Number, Including Area Code: **(212) 486-0040**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes o No x

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act. (Check one):

Large Accelerated Filer	o	Accelerated Filer	o
Non-Accelerated Filer (Do not check if a smaller reporting company)	o	Smaller Reporting Company	x

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No x

As of August 14, 2014, there were 3,782,629 shares of the issuer’s common stock, par value $0.01 per share, outstanding.

TABLE OF CONTENTS

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements. Such forward-looking statements include those that express plans, anticipation, intent, contingency, goals, targets or future development and/or otherwise are not statements of historical fact. These forward-looking statements are based on our current expectations and projections about future events and they are subject to risks and uncertainties known and unknown that could cause actual results and developments to differ materially from those expressed or implied in such statements.

In some cases, you can identify forward-looking statements by terminology, such as “expects,” “anticipates,” “intends,” “estimates,” “plans,” “believes,” “seeks,” “may,” “should,” “continue,” “could” or the negative of such terms or other similar expressions. Accordingly, these statements involve estimates, assumptions and uncertainties that could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this Quarterly Report on Form 10-Q.

You should read this quarterly report and the documents that we reference herein and therein and have filed as exhibits to this report, completely and with the understanding that our actual future results may be materially different from what we expect. You should assume that the information appearing in this quarterly report is accurate as of the date of this report only. Because the risk factors referred to above could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any forward-looking statements. These risks and uncertainties, along with others, are described under the heading “Risk Factors.” Further, any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events. New risk factors may emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each risk factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. We qualify all of the information presented in this Quarterly Report on Form 10-Q, and particularly our forward-looking statements, by these cautionary statements.

PART I—FINANCIAL INFORMATION

Item 1. Consolidated Financial Statements.

Signal Genetics, Inc. and Subsidiaries
Consolidated Balance Sheets

	June 30, 2014 (Unaudited)	December 31, 2013
ASSETS		
Current assets:		
Cash	$ 7,696,325	$ 209,348
Restricted cash	50,199	50,180
Accounts receivable	1,359,405	994,010
Inventory	193,140	356,641
Prepaid expenses and other current assets	468,885	444,369
Total current assets	9,767,954	2,054,548
Property and equipment, net	860,006	928,026
Deferred issuance costs	-	655,018
Security deposits	35,034	35,034
	$ 10,662,994	$ 3,672,626
LIABILITIES AND STOCKHOLDERS' EQUITY/MEMBERS' DEFICIENCY		
Current liabilities:		
Accounts payable and accrued expenses	$ 1,081,704	$ 689,716
Amounts due to related party	1,045,000	-
Note payable - current portion	10,597	42,046
Note payable - related party	-	26,568,554
Total current liabilities	2,137,301	27,300,316
Lease termination/abandonment payable	62,527	259,345
Commitments and contingencies		
Stockholders' equity/members' deficiency:		
Common stock, $0.01 par value, 50,000,000 shares authorized, 3,782,629 shares issued and outstanding at June 30, 2014 and no shares issued and outstanding at December 31, 2013	37,826	-
Additional paid in capital	38,307,103	-
Accumulated deficit	(29,881,763)	-
Members' deficiency	-	(23,887,035)
Total members' deficiency/stockholders' equity	8,463,166	(23,887,035)
	$ 10,662,994	$ 3,672,626

See accompanying notes to unaudited consolidated financial statements.

Signal Genetics, Inc. and Subsidiaries
Unaudited Consolidated Statements of Operations

	Three Months Ended	
	June 30, 2014	June 30, 2013
Net revenue	$ 1,273,571	$ 1,102,904
Operating expenses:		
Cost of revenue	675,731	603,054
Selling and marketing	73,754	67,053
General and administrative	451,711	470,350
Stock compensation	2,874,740	-
Research and development	9,023	22,820
Total operating expenses	4,084,959	1,163,277
Operating loss	(2,811,388)	(60,373)
Interest expense	(477,561)	(479,318)
Net loss	(3,288,949)	(539,691)
Dividend to member unit holder of Myeloma Health LLC	-	(90,000)
Net loss attributable to stockholders of Signal Genetics, Inc.	$ (3,288,949)	$ (629,691)
Basic and diluted net loss per share:		
Net loss attributable to stockholders of Signal Genetics, Inc.	$ (1.13)	$ (0.24)
Average shares outstanding - basic and diluted	2,903,040	2,591,223

See accompanying notes to unaudited consolidated financial statements.

Signal Genetics, Inc. and Subsidiaries
Unaudited Consolidated Statements of Operations

	Six Months Ended	
	June 30, 2014	June 30, 2013
Net revenue	$ 2,364,494	$ 2,242,292
Operating expenses:		
Cost of revenue	1,339,245	1,272,021
Selling and marketing	146,824	153,153
General and administrative	964,036	888,180
Stock compensation	2,874,740	-
Research and development	17,730	68,563
Total operating expenses	5,342,575	2,381,917
Operating loss	(2,978,081)	(139,625)
Interest expense	(1,016,647)	(937,222)
Net loss	(3,994,728)	(1,076,847)
Dividend to member unit holder of Myeloma Health LLC	-	(180,000)
Net loss attributable to stockholders of Signal Genetics, Inc.	$ (3,994,728)	$ (1,256,847)
Basic and diluted net loss per share:		
Net loss attributable to stockholders of Signal Genetics, Inc.	$ (1.40)	$ (0.49)
Average shares outstanding - basic and diluted	2,847,505	2,545,013

See accompanying notes to unaudited consolidated financial statements.

Signal Genetics, Inc. and Subsidiaries
Unaudited Consolidated Statements of Cash Flows

	Six Months Ended	
	June 30, 2014	June 30, 2013
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (3,994,728)	$ (1,076,847)
Adjustments to reconcile net loss from continuing operations to net cash used in operating activities:		
Stock compensation	2,874,740	-
Depreciation and amortization	72,288	74,943
Non-cash interest on note payable – related party	1,007,733	923,898
Lease termination	45,724	-
Changes in operating assets and liabilities:		
Accounts receivable	(365,395)	65,658
Inventory	163,501	78,440
Prepaid expenses and other current assets	(24,516)	(29,631)
Accounts payable and other accrued expenses	77,972	(298,669)
Lease termination/abandonment payable	(242,542)	(157,988)
Net cash used in operating activities of discontinued operations	-	(93,875)
Net cash used in operating activities	(385,223)	(514,071)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of property and equipment	(4,268)	-
Decrease in security deposits	-	10,548
Increase in restricted cash	(19)	(50)
Net cash (used in) provided by investing activities	(4,287)	10,498
CASH FLOWS FROM FINANCING ACTIVITIES:		
Distributions	-	(180,000)
Repayment of note payable	(31,449)	(30,445)
Proceeds from issuance of common stock	8,500,000	-
Payments for deferred issuance costs	(1,387,064)	-
Repayment of note payable - related party	-	(10,366,183)
Proceeds from note payable - related party	795,000	11,214,727
Net cash provided by financing activities	7,876,487	638,099
NET INCREASE IN CASH	7,486,977	134,526
CASH:		
Beginning of period	209,348	112,534
End of period	$ 7,696,325	$ 247,060

See accompanying notes to unaudited consolidated financial statements.

1. Organization, Operations and Basis of Accounting

Signal Genetics, Inc. (the "Company") was originally formed as Myeloma Health LLC, in January 2010. Effective January 1, 2011 with the formation of Signal Genetics LLC, substantially all the members' interests in Myeloma Health LLC were exchanged for members' interests in Signal Genetics LLC and Myeloma Health LLC became a subsidiary of the Company.

On June 17, 2014, the Company completed a corporate conversion and Signal Genetics LLC converted from a limited liability company to a Delaware corporation (the "Corporate Conversion"). Immediately prior to the Corporate Conversion, $27,326,287 of the note payable – related party was converted into 2,732,629 newly authorized Class C units (the "Debt Conversion") (see Note 5 for additional information on the Debt Conversion). In connection with the Corporate Conversion, all outstanding Class A and C units of Signal Genetics LLC were converted into an aggregate of 2,932,629 shares of common stock of the Company, the members of Signal Genetics LLC became stockholders of the Company and the Company succeeded to the business of Signal Genetics LLC and its consolidated subsidiaries.

On June 23, 2014, the Company completed the initial public offering ("IPO") of shares of its common stock. The Company issued 850,000 shares in the offering and received net proceeds from the offering of approximately $6,144,000 (after the payment of underwriter commissions and offering expenses).

The accompanying consolidated financial statements include the Company and its wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

The Company is a commercial stage, molecular diagnostic company focused on providing innovative diagnostic services that help physicians make better-informed decisions concerning the care of their patients suffering from cancer. In 2010, the Company became the exclusive licensee to the research on multiple myeloma ("MM") performed at the University of Arkansas for Medical Sciences ("UAMS"). Myeloma Prognostic Risk Signature ("MyPRS®") is based upon more than two decades of clinical research on nearly 10,000 MM patients who received their care at UAMS. The Company currently generates revenues from the performance of MyPRS® diagnostic tests, which was launched in April 2011.

Since its inception, the Company has devoted substantial effort in developing its products and services and has incurred losses and negative cash flows from operations. Prior to the IPO, all financial support had been provided by the majority member (see Note 6). For the three months ended June 30, 2014, however, following the Debt Conversion, the Corporation Conversion and the IPO, the Company had positive working capital and stockholders' equity. Although the Company is forecasting continued losses and negative cash flows as it funds its selling and marketing activities and research and development programs, the Company believes that it has enough cash on hand to support operations at least through August 2015. Going forward, as the Company continues its selling and marketing activities and research and development programs, the Company may seek additional financing and/or strategic investments. However, there can be no assurance that any additional financing or strategic investments will be available on acceptable terms, if at all. If events or circumstances occur such that the Company does not obtain additional funding, the Company will most likely be required to reduce its plans and/or certain discretionary spending, which could have a material adverse effect on the Company's ability to achieve its intended business objectives. The accompanying consolidated financial statements do not include any adjustments that might be necessary if the Company is unable to continue as a going concern.

The accompanying unaudited consolidated financial statements have been prepared pursuant to the rules and regulations of the Securities and Exchange Commission ("SEC"). Certain information and note disclosures normally included in annual financial statements prepared in accordance with generally accepted accounting principles have been omitted. The accompanying unaudited consolidated financial statements include all known adjustments necessary for a fair presentation of the results of interim periods as required by accounting principles generally accepted in the United States. These adjustments consist primarily of normal recurring accruals and estimates that impact the carrying value of assets and liabilities. Actual results may materially differ from these estimates. The consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements for the year ended December 31, 2013, which are included in the Company's S-1/A Registration Statement filed with the SEC on June 13, 2014. The December 31, 2013 balance sheet is derived from the Company's audited consolidated financial statements.

2. Summary of Significant Accounting Policies

Use of Estimates — The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP"). The preparation of financial statements in conformity with GAAP requires management to make judgments, assumptions and estimates that affect the amounts reported in the Company's consolidated financial statements and accompanying notes. Significant estimates in the consolidated financial statements have been made for revenue and depreciation of property and equipment. Actual results could differ materially from those estimates.

Accounts Receivable and Allowance for Doubtful Accounts — The Company records accounts receivable net of an allowance for doubtful accounts. The Company estimates an allowance for doubtful accounts based on the aging of the accounts receivable and the historical collection experience since the Company's inception for each type of payor. The Company has not had any bad debts from any of its contracted or noncontracted insurance companies. Accordingly, there is no allowance for doubtful accounts recorded as of June 30, 2014 and December 31, 2013.

Inventory — Inventory, which consists entirely of materials and supplies, is valued at the lower of cost or market using the first-in, first-out ("FIFO") method.

Property and Equipment — Property and equipment is carried at cost. Expenditures for major additions and betterments are capitalized. Maintenance and repairs are charged to operations as incurred. Depreciation and amortization are calculated using the straight-line method over the estimated useful lives of the assets, which range from three to ten years. Upon sale or retirement of property and equipment, the related cost and accumulated depreciation are removed from the accounts and any gain or loss is reflected in operations.

Long Lived Assets — The Company reviews long-lived assets, consisting of property and equipment, for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable based on undiscounted cash flows. If long-lived assets are impaired, an impairment loss is recognized and is measured as the amount by which the carrying value exceeds the estimated fair value of the assets. No impairment charges were recorded during the six months ended June 30, 2014 and 2013.

Revenue Recognition — Revenues that are derived from testing services are recognized in accordance with the Financial Accounting Standards Board Accounting Standards Codification ("FASB ASC") 605, *Revenue Recognition*, which requires that four basic criteria be met before revenue can be recognized: (1) persuasive evidence that an arrangement exists; (2) delivery has occurred and title and the risks and rewards of ownership have been transferred to the client or services have been rendered; (3) the price is fixed or determinable; and (4) collectability is reasonably assured. The Company records revenues when the tests have confirmed results which are evidence that the services have been performed.

Revenues are recorded on an accrual basis when the contractual obligations are completed as a set of assays is processed through our laboratory and test results are delivered to ordering physicians. Revenues are billed to various payors, including Medicare, contracted insurance companies, directly billed customers (UAMS, pharmaceutical companies, reference laboratories and hospitals) and non-contracted insurance companies. The Company reports revenues from Medicare, contracted insurance companies and directly billed customers based on the contractual rate. The contractual rate is based on established agreed upon rates between the Company and the respective payor and is the price invoiced by the Company. The Company reports revenues from non-contracted insurance companies based on the amount expected to be collected which is based on the historical collection experience of each payor or payor group, as appropriate. The difference between the amount billed and the amount estimated to be collected from non-contracted insurance companies is recorded as a contractual allowance at the same time the revenue is recognized, to arrive at reported net revenue. The Company does not record revenue from individuals for billings, deductibles or co-pays until cash is collected; as collectability is not assured at the time services are provided, therefore there are no accounts receivable from self-payors. Gross revenues from individuals have been immaterial. The Company's estimates of net revenue for non-contracted insurance companies are subject to change based on the contractual status and payment policies of the third-party payors with whom we deal. The Company regularly refines its estimates in order to make its estimated revenue as accurate as possible based on its most recent collection experience with each third-party payor. The Company regularly reviews its historical collection experience for non-contracted payors and adjusts our expected revenues for current and subsequent periods accordingly.

2. Summary of Significant Accounting Policies - (continued)

The table below shows the adjustments made to gross revenues to arrive at net revenues, the amount reported on our statements of operations:

	Three Months		Six Months	
	June 30, 2014	June 30, 2013	June 30, 2014	June 30, 2013
Gross revenues	$ 1,525,443	$ 1,238,985	$ 2,864,206	$ 2,523,281
Less: Allowances	251,872	136,081	499,712	280,989
Net revenues	$ 1,273,571	$ 1,102,904	$ 2,364,494	$ 2,242,292

Contractual allowances recorded during both the three and six months ended June 30, 2014 and 2013 represented approximately 17% and 11%, respectively, of gross revenues. The increase in the percentage was primarily due to the decreased revenues to direct-billed customers, which decreased to approximately 62% of gross revenues during the three months ended June 30, 2014 from approximately 74% of gross revenues during the three months ended June 30, 2013 and decreased to approximately 60% during the six months ended June 30, 2014 from approximately 72% of gross revenues during the six months ended June 30, 2013.

Income Taxes — Prior to the Corporate Conversion, the Company was a limited liability company, which is not a tax paying entity at the corporate level. Each member was instead individually responsible for such member's share of the Company's income or loss for income tax reporting purposes. Net operating losses incurred by the Company through the date of the Corporate Conversion have been, or will be, used by the members to offset gains on other interests and are therefore not able to be carried forward to the Company.

Effective as of the Corporate Conversion, the Company accounts for income taxes in accordance with FASB ASC 740, *Income Taxes*. Deferred tax assets and liabilities are recorded for the expected future tax consequences of events that have been included in the consolidated financial statements or income tax returns. Deferred taxes are determined on the basis of the differences between the carrying amount of assets and liabilities for financial statement and income tax purposes at enacted rates in effect for the years in which the differences are expected to reverse. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amounts expected to be realized.

Applicable accounting guidance requires that a position taken or expected to be taken in a tax return be recognized in the financial statements when it is more likely than not that the position would be sustained upon examination by tax authorities. A recognized tax position is then measured at the largest amount of benefit that is greater than 50% likely of being realized upon ultimate settlement. Accounting provisions also require that a change in judgment that results in subsequent recognition, derecognition, or change in a measurement of a tax position taken in a prior annual period (including any related interest and penalties) be recognized as a discrete item in the period in which the change occurs. The Company regularly evaluates the likelihood of recognizing the benefit for income tax positions taken in various federal and state filings by considering all relevant facts, circumstances, and information available.

The Company classifies any interest and penalties related to unrecognized tax benefits as a component of income tax expense.

Equity Incentive Compensation — The Company accounts for equity incentive compensation in accordance with FASB ASC 718, *Stock Compensation*. Equity incentive compensation expense for all equity-based compensation awards granted is based on the grant-date fair value estimated in accordance with the provisions of ASC 718. The Company recognizes compensation expense in an amount equal to the estimated grant date fair value of each stock award over the estimated period of service and vesting.

Fair Value of Financial Instruments — The Company's management believes the carrying amounts of cash, accounts receivable and accounts payable approximate fair value due to their short-term maturity. The fair value of the note payable — related party cannot be reasonably estimated as a result of the related party arrangement. The present value of the note payable at June 30, 2014 and December 31, 2013 was approximately $11,000 and $42,000, respectively.

2. Summary of Significant Accounting Policies - (continued)

Supplemental Disclosures of Cash Flow Information and of Non-Cash Financing Transactions — During the six months ended June 30, 2014 and 2013, the Company paid approximately $9,000 and $1,197,000, respectively, in interest. Of the total paid in 2013, $1,182,000 was paid to related parties (see Note 6). In addition, during the six months ended June 30, 2014, the Company converted $27,326,287 of the note payable – related party into equity. Additionally, approximately $1,124,000 of deferred issuance costs were converted into equity and at June 30, 2014, there are remaining issuance costs of approximately $469,000 included in accounts payable and accrued expenses.

Concentration of Credit Risk, Major Customers and Suppliers — Cash is maintained at one financial institution and, at times, balances may exceed federally insured limits. The Company has never experienced any losses related to these balances.

During the three and six months ended June 30, 2014 and 2013, the Company had one major customer, UAMS. Revenue sourced either from or through UAMS accounted for approximately 83% and 85% of net revenue for the three months ended June 30, 2014 and 2013, respectively, and 81% and 83% of net revenue for the six months ended June 30, 2014 and 2013, respectively. Accounts receivable sourced either from or through UAMS at June 30, 2014 and December 31, 2013 accounted for approximately 65% and 62%, respectively.

Inventory used in the Company's testing process is procured from one supplier. Any supply interruption or an increase in demand beyond the suppliers' capabilities could have an adverse impact on the Company's business. Management believes it could identify alternative suppliers, if necessary, but it is possible such suppliers may not be identified in a timely manner to avoid an adverse impact on its business.

Recent Accounting Pronouncements — Other than as disclosed below, we have reviewed all recently issued standards and have determined they will not have a material impact on our consolidated financial statements or do not apply to our operations.

In May 2014, the FASB issued Accounting Standards Update ("ASU") No. 2014-09 *Revenue from Contracts with Customers* which outlines a single comprehensive model for entities to use in accounting for revenue from contracts with customers and supersedes most current revenue recognition guidance in FASB ASC 605, *Revenue Recognition*, including industry-specific guidance. The ASU is based on the principle that an entity should recognize revenue to depict the transfer of goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The ASU also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to fulfill a contract. The ASU becomes effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period; early adoption is not permitted. Entities have the option of using either a full retrospective or a modified retrospective approach for the adoption of the new standard. The Company is currently assessing the impact that this standard will have on its consolidated financial statements.

Future Accounting Pronouncements — Section 107 of the Jumpstart Our Business Startups Act of 2012 (JOBS Act) provides that an emerging growth company, such as our company, may take advantage of an extended transition period for complying with new or revised accounting standards. Thus, an emerging growth company may delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. Although to date, the Company has not taken advantage of this delay, the Company has elected to avail itself of the extended transition period for adopting new or revised accounting standards in the future. As a result of this election, our consolidated financial statements may not be comparable to companies that comply with public company effective dates.

3. Property and Equipment

Property and equipment at June 30, 2014 and December 31, 2013, consists of the following:

	June 30, 2014 (Unaudited)	December 31, 2013
Computer and lab equipment	$ 1,324,359	$ 1,320,091
Furniture and fixtures	12,550	12,550
Leasehold improvements	6,439	6,439
	1,343,348	1,339,080
Less: Accumulated depreciation and amortization	483,342	411,054
	$ 860,006	$ 928,026

Depreciation and amortization expense for the three months ended June 30, 2014 and 2013 was approximately $36,000 and $38,000, respectively. Depreciation and amortization expense for the six months ended June 30, 2014 and 2013 was approximately $72,000 and $75,000, respectively.

4. Accounts Payable and Accrued Expenses

Accounts payable and accrued expenses at June 30, 2014 and December 31, 2013, consists of the following:

	June 30, 2014 (Unaudited)	December 31, 2013
Accounts payable	$ 167,738	$ —
Salaries and related taxes	16,748	76,409
Current portion of lease termination/abandonment payable	368,141	319,454
Legal fees	-	48,415
Deferred issuance costs	468,611	154,596
Other	60,466	90,842
	$ 1,081,704	$ 689,716

5. Notes Payable

Note Payable — The Company has acquired certain property and equipment through the issuance of a note payable totaling approximately $182,000. The note is payable in thirty-six monthly installments of $5,320 through August 2014. The present value of the note payable at June 30, 2014 and December 31, 2013 was approximately $11,000 and $42,000, respectively. The effective interest rate of the note during 2014 and 2013 was 3.4%. The Company has collateralized the notes with the related equipment, which had a net book value of approximately $285,000 and $305,000 at June 30, 2014 and December 31, 2013, respectively, and is included in computer and lab equipment (see Note 3).

Note Payable — Related Party — During the six months ended June 30, 2014 and 2013, the Company's then majority member, through various entities controlled by such member, loaned the net amount of approximately $795,000 and $849,000, respectively, to the Company to support its operations. Prior to the Debt Conversion (described below), the note bore interest at 8% compounded quarterly and was due on demand and were collateralized by substantially all assets of the Company. Interest expense related to the note for the three months ended June 30, 2014 and 2013 was approximately $476,000 and $474,000, respectively. Interest expense related to the note for the six months ended June 30, 2014 and 2013 was approximately $1,008,000 and $924,000, respectively. Prior to the Debt Conversion, interest was accrued and included in the note payable – related party reflected on the accompanying consolidated balance sheets. During the six months ended June 30, 2013, the majority member loaned the Company approximately $10,366,000, which was used to repay interest of approximately $1,166,000 and principal of $9,200,000 owed to certain entities controlled by such member who had loaned monies to the Company under the note.

5. Notes Payable – (continued)

Pursuant to the terms of an Exchange Agreement, and prior to the Corporate Conversion, $27,326,287 of the note payable as of June 17, 2014 was exchanged for 2,732,629 Class C units of Signal Genetics LLC and recorded to members' equity. The remaining $1,000,000 as of that date, along with an additional $45,000, which were advanced to pay for certain offering expenses was reclassified to amounts due to a related party on the consolidated balance sheet and is non-interest bearing and due on demand.

6. Stockholders' Equity/Members' Interests

Distributions — Distributions of $90,000 and $180,000 during the three and six months ended June 30, 2013, respectively, were made to a member of Myeloma Health LLC, a subsidiary of the Company. The distribution was covered by a dividend made by the Company to Myeloma Health LLC.

Corporate Conversion — Immediately prior to the Corporate Conversion, Signal Genetics LLC had issued and outstanding 72,500 Class A units and 41,088 Class B units (23,328 of which were unvested). As described in Note 5, in connection with the Debt Conversion, the note payable - related party as of June 17, 2014 was exchanged for 2,732,629 Class C units of the Company. On June 17, 2014, the outstanding Class A and Class C units of Signal Genetics LLC were converted into 200,000 shares and 2,732,629 shares, respectively, for an aggregate of 2,932,629 shares of common stock at $10.00 per share. All outstanding Class B units, which consisted of equity incentive units, were cancelled.

On June 23, 2014, the Company completed its IPO of shares of its common stock and issued 850,000 shares in the offering at $10.00 per share. The Company received net proceeds from the offering of approximately $6,144,000 (after the payment of underwriter commissions and offering expenses).

Restricted Stock Awards — Effective with the IPO, the Company adopted the 2014 Stock Incentive Plan (the "Plan") to promote long-term growth and profitability by (i) providing key people with incentives to improve stockholder value and to contribute to the Company's growth and financial success through their future services and (ii) enabling the Company to attract, retain and reward the best-available personnel. Under the Plan, the Company may issue awards for up to 1,245,399 shares of its common stock. Awards may be made in the form of incentive or non-statutory stock options, stock appreciation rights, restricted or unrestricted stock awards, restricted stock units, performance awards, or other stock-based awards. No awards may be granted after June 16, 2024.

In connection with the IPO, the Company issued restricted stock unit awards for an aggregate of 831,593 shares of its common stock to certain employees of the Company with the following terms:

- Restricted stock unit award for 745,511 shares issued to the Company's Chief Executive Officer – 33.3% vested upon the date of grant but will not be issued until January 1, 2015 and 16.67% will vest and be issued on each of January 1, 2015, and the twelve-month, eighteen-month and twenty-four-month anniversary of the date of grant.

- Restricted stock unit award for 48,442 shares issued to the Company's Vice President of Research and Operations – 29,356 vested upon the date of grant but will not be issued until January 1, 2015 with the balance of 19,086 to vest in nineteen monthly installments beginning with the month in which the date of grant occurs on the last day of each calendar month. Issuance dates for the monthly installments will be on the first day of January and July of each calendar year.

- Restricted stock unit award for 37,640 shares issued to a consultant and company founder – 25% will vest and be issued upon the first anniversary of the grant date and the remaining will vest in thirty-six monthly installments beginning with the month of the first anniversary on the last day of each calendar month. Issuance dates for the monthly installments will be on the first day of January and July of each calendar year.

The Company has recorded stock compensation expense for the above restricted stock unit awards based upon the fair value of the awards on the date of grant. Stock compensation expense for the three and six months ended June 30, 2014 was approximately $2,875,000.

Net Loss Per Share – The Company calculates net loss per share in accordance with FASB ASC 260, *Earnings Per Share*. Basic net loss per share is computed by dividing the net loss for the period by the weighted average number of shares of common stock outstanding for the period. Diluted net loss per share is computed by dividing the net loss by the weighted average number of shares of common stock and dilutive common stock equivalents then outstanding. Common stock equivalents consist of restricted stock unit awards.

6. Stockholders' Equity/Members' Interests – (continued)

For all periods presented, the Company has adjusted the number of shares outstanding to reflect the Debt and Corporate Conversions completed on June 17, 2014 (see Notes 1 and 5) as if they occurred as of the beginning of the respective period. At June 30, 2014, 278,865 vested restricted stock units and 552,728 unvested restricted stock units were excluded from basic and diluted net loss per share due to the net loss incurred during the respective periods. At June 30, 2013, previously issued equity incentive units were also excluded due to the net loss incurred during the respective periods.

7. Commitments and Contingencies

Operating Leases — During March 2014, the Company renewed its laboratory and office facility operating lease for another annual period through March 2015. Monthly rent expense is approximately $6,300.

Lease Termination/Abandonment — During the year ended December 31, 2012, the Company recorded approximately $932,000 in costs associated with an operating lease (resulting from its abandonment of the related property and its unsuccessful attempts to sublease the lease), which amount represented the then present value of the remaining payments due under the lease. In calculating such liability, the Company took into account a termination clause in the lease pursuant to which it could terminate the lease after August 2015 and the lack of any sublease income, due to the Company's inability as of such date to sublet such space.

During March 2014, the Company entered into a termination agreement with the landlord related to the operating lease. As an inducement for the landlord to agree to the termination of the lease, the Company agreed to pay a termination fee of approximately $565,000 in monthly installments of $31,400 until the fee is paid in full (August 2015). The Company has recorded the present value of the remaining payments as per the termination agreement, which due to changes in estimates resulted in an additional charge of approximately $46,000 to expense during the six months ended June 30, 2014, which is included in general and administrative expenses on the accompanying unaudited consolidated statements of operations. At June 30, 2014 and December 31, 2013, the total liability was approximately $431,000 and $579,000, respectively.

Letters of Credit — At June 30, 2014, the Company was contingently liable for a standby letter of credit issued by a commercial bank for $50,000, for security on a lease. The Company has approximately $50,000 in a restricted cash account that is held as cash collateral for the letter of credit.

Litigation — The Company is, from time to time, involved in legal proceedings, regulatory actions, claims and litigation arising in the ordinary course of business. Currently, the Company is not a defendant in any lawsuits.

8. Subsequent Events

On July 21, 2014, the Company's Chief Financial Officer submitted his resignation, effective August 4, 2014, and the Company's Board of Directors appointed a new Chief Financial Officer, effective August 4, 2014. In connection with this appointment, the Company entered into a new employment agreement which provides for an annual base salary and potential bonus and certain change of control, termination and severance clauses that require the Company to make payments if certain events occur as defined in the agreement.

During July and August 2014, the Company granted 108,500 restricted stock unit awards and 101,000 stock options to employees and members of the board of directors.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion and analysis should be read together with our consolidated financial statements and the related notes appearing elsewhere in this Quarterly Report on Form 10-Q. This discussion contains forward-looking statements reflecting our current expectations that involve risks and uncertainties. See "Forward-Looking Statements" for a discussion of the uncertainties, risks and assumptions associated with these statements. Actual results and the timing of events could differ materially from those discussed in our forward-looking statements as a result of many factors, including those set forth under "Risk Factors" and elsewhere in this Quarterly Report on Form 10-Q.

Overview

We are a commercial stage, molecular diagnostic company focused on providing innovative diagnostic services that help physicians make better-informed decisions concerning the care of their patients suffering from cancer. Our mission is to develop, validate and deliver innovative diagnostic services that enable better patient-care decisions.

We were founded in January 2010 and became the exclusive licensee in our licensed field to the renowned research on multiple myeloma ("MM") performed at the University of Arkansas for Medical Sciences ("UAMS") in April 2010. Our flagship service offering is the Myeloma Prognostic Risk Signature ("MyPRS®") test. The MyPRS® test is a microarray-based gene expression profile ("GEP") assay that tests for the presence of specific groups of genes that can predict low or high level risk of early relapse in patients suffering from MM. The information provided by the MyPRS® test aids physicians in selecting the optimal treatment regime for each patient's unique MM condition. To our knowledge, we are the only company marketing a GEP test for assessing the status of MM in the United States.

Our growth strategy includes the following key elements:

- Expand the U.S. market penetration of our MyPRS® test by increasing the geographic coverage of our sales force which currently consists of one employee.
- Broaden the base of health care insurance companies that have approved reimbursements for MyPRS®.
- Expand the diagnostic indications for MyPRS® to include asymptomatic monoclonal gammopathies ("AMG"), the precursor condition to MM.
- Establish partnerships with other reference laboratories to expand the market reach for MyPRS®.
- Pursue collaborations with pharmaceutical companies who focus on developing therapies to treat MM and its precursor disease.
- Expand our information technology infrastructure to further improve our customer service experience.
- Continue to leverage our relationship with UAMS via our exclusive license agreement.
- Expand our test offering with the addition of conventional tests used by physicians who care for MM patients.
- Pursue additional collaborations and in-licensing to expand our service offering.
- Continue to reduce the costs associated with the development, manufacture and interpretation of our proprietary genomic tests and services.

Our revenue is derived primarily from our laboratory testing services, and in particular from our MyPRS® testing services. We derive a significant portion of our revenues from payments or reimbursements received from various payors, including Medicare, contracted insurance companies, directly billed customers (UAMS, pharmaceutical companies, reference laboratories and hospitals) and non-contracted insurance companies.

We believe a key challenge to achieving our growth strategy will be our ability to become contracted with additional payors beyond Medicare and Arkansas Blue Cross Blue Shield. In order to broaden our coverage policy approval to include a majority of the major health care insurance providers in the United States, we plan to hire experienced managed care professionals who can assist us with gaining contractual agreements with third-party payors.

Other challenges to our growth strategy include: (1) the acceptance of our tests by the oncology community. For example, if medical oncologists do not adopt the use of MyPRS® to evaluate the risk of developing MM in patients with AMG, our growth strategy could be adversely affected; (2) if other tests that more accurately predict the severity of MM, the risk of progression of AMG to MM or the likelihood of response to therapy, are developed, physicians could stop ordering MyPRS®, adversely affecting our ability to generate revenue; and (3) payors, including our currently contracted payors, could reduce payment for MyPRS®.

Current Events

On June 17, 2014, we completed a corporate conversion and Signal Genetics LLC converted from a Delaware limited liability company to a Delaware corporation (the "Corporate Conversion"). Immediately prior to the Corporate Conversion pursuant to the terms of an Exchange Agreement, $27,326,287 of a note payable – related party was converted into 2,732,629 Class C units (the "Debt Conversion"). In connection with the Corporate Conversion, all outstanding Class A and C units of Signal Genetics LLC were converted into an aggregate of 2,932,629 shares of common stock of the Company, the members of Signal Genetics LLC became stockholders of the Company and the Company succeeded to the business of Signal Genetics LLC and its consolidated subsidiaries.

On June 23, 2014, we completed the initial public offering ("IPO") of shares of our common stock. We issued 850,000 shares in the offering and received net proceeds from the offering of approximately $6,144,000 (after the payment of underwriter commissions and offering expenses).

Results of Operations

Three Months Ended June 30, 2014 Compared to Three Months Ended June 30, 2013

Revenue

Revenue was $1,273,571 for the three months ended June 30, 2014, an increase of $170,667, or 15.5%, compared to $1,102,904 for the same period in 2013. The increase in revenue was due to a combination of the following factors:

- A $112,343 increase in revenue sourced either from or through our major customer, UAMS. Despite a 4% decrease in tests performed during the three months ended June 30, 2014 as compared to the same period in 2013 (899 tests performed in 2014 versus 936 tests performed in 2013), the average sales price per test increased by $166.34, or 17%, primarily due to the mix in both the type of test being performed (research versus clinical) and the type of payor category.

- A $58,324 increase in revenue sourced from non-UAMS customers. Despite a 27% decrease in revenue from pharmaceutical companies due to the completion of a clinical study in 2013 ($5,512 decrease), revenue from other hospitals outside of UAMS increased by 45% (a $63,836 increase). The increase in revenues resulted from a 39% increase in the number of tests performed during the three months ended June 30, 2014 as compared to the same period in 2013 (114 tests performed in 2014 versus 82 tests performed in 2013). The increase in volume was slightly offset by a decrease of 4 tests for pharmaceutical companies due to the completion of the clinical study in 2013. Additionally, we experienced a decrease in average selling price per test of $42.99, or 2%. The decrease in average sales price was primarily due to the completion of the clinical study in 2013 which had a higher average selling price per test.

Cost of revenue

Cost of revenue was $675,731 (53% of revenues) for the three months ended June 30, 2014, an increase of $72,677, or 12.1%, compared to $603,054 (55% of revenues) for the same period in 2013. The primary reason for the increase in dollars is due to 1) approximately $98,000 in increased material and supply costs primarily due to increases in costs from our suppliers and increases in usage of certain materials offset by 2) approximately $21,000 in decreased personnel cost.

Selling and marketing expenses

Selling and marketing expenses were $73,754 for the three months ended June 30, 2014, an increase of $6,701, or 10.0%, compared to $67,053 for the same period in 2013. The primary reason for the increase in selling and marketing expenses was due to the increased revenues during the 2014 period resulting in increased commission expense. We plan to expand our sales force and marketing expenditures now that we have completed the IPO.

Stock Compensation

Stock compensation expense was $2,874,740 for the three months ended June 30, 2014, compared to no expense for the same period in 2013. Stock compensation expense in 2014 relates to the restricted stock unit awards that were granted to three individuals in connection with the IPO and primarily relates to the portion of those awards that were immediately vested.

General and administrative expenses

General and administrative expenses were $451,711 for the three months ended June 30, 2014, a decrease of $18,639, or 4.0%, compared to $470,350 for the same period in 2013. The primary reason for the decrease was due to decreased legal costs primarily related to a tortious interference case that was initiated in 2012 and eventually settled in August 2013.

Research and development expenses

Research and development expenses were $9,023 for the three months ended June 30, 2014, a decrease of $13,797, or 60.5%, compared to $22,820 for the same period in 2013. The primary reason for the decrease in research and development expenses was due to the abandonment of certain research projects that were deemed to no longer be viable.

In the future, we expect research and development expenses to increase as we work to develop additional diagnostic tests and add indications to our MyPRS® test. We cannot estimate the amounts we will need to invest in order to achieve the new indications or new tests, nor do we know if we will be successful in these endeavors.

Interest expense

Interest expense was $477,561 for the three months ended June 30, 2014, compared to $479,318 for the same period in 2013. The decrease was due to the Debt Conversion that occurred on June 17, 2014. We expect that interest expense going forward will decrease significantly.

Net loss attributable to stockholders

For the foregoing reasons, we had a net loss attributable to stockholders of Signal Genetics, Inc. of $(3,288,949) for the three months ended June 30, 2014 compared to a net loss attributable to stockholders of Signal Genetics, Inc. of $(629,691) for the three months ended June 30, 2013.

Six Months Ended June 30, 2014 Compared to Six Months Ended June 30, 2013

Revenue

Revenue was $2,364,494 for the six months ended June 30, 2014, an increase of $122,202, or 5.4% compared to $2,242,292 for the same period in 2013. The increase in revenue was due to a combination of the following factors:

- A $44,122 increase in revenue sourced either from or through our major customer, UAMS. Despite an 11% decrease in tests performed during the six months ended June 30, 2014 as compared to the same period in 2013 (1,640 tests performed in 2014 versus 1,846 tests performed in 2013), the average sales price per test increased by $154.20, or 15% primarily due to the mix in both the type of test being performed (research versus clinical) and the type of payor category.

- A $78,080 increase in revenue sourced from non-UAMS customers. Despite a 52% decrease in revenue from pharmaceutical companies due to the completion of a clinical study in 2013 ($37,825 decrease), revenue from other hospitals outside of UAMS increased by 39% (a $115,905 increase). The increase in revenues resulted from a 30% increase in the number of tests performed during the six months ended June 30, 2014 as compared to the same period in 2013 (239 tests performed in 2014 versus 184 tests performed in 2013). The increase in volume was slightly offset by a decrease of 17 tests for pharmaceutical companies due to the completion of the clinical study in 2013. Additionally, we experienced a decrease in average selling price per test of $138.00, or 7%. The decrease in average sales price was primarily due to the completion of the clinical study in 2013 which had a higher average selling price per test.

Cost of revenue

Cost of revenue was $1,339,245 (57% of revenues) for the six months ended June 30, 2014, an increase of $67,224, or 5.3%, compared to $1,272,021 (57% of revenues) for the same period in 2013. The increase in dollars was primarily due to 1) approximately $108,000 in increased material and supply costs primarily due to increases in costs from our suppliers and increases in usage of certain materials offset by 2) approximately $55,000 in decreased personnel cost.

Selling and marketing expenses

Selling and marketing expenses were $146,824 for the six months ended June 30, 2014, a decrease of $6,329, or 4.1%, compared to $153,153 in the same period in 2013. The primary reason for the decrease in selling and marketing expenses was due to reduction of our sales staff. We plan to expand our sales force and marketing expenditures now that we have completed the IPO.

Stock Compensation

Stock compensation expense was $2,874,740 for the six months ended June 30, 2014, compared to no expense for the same period in 2013. Stock compensation in 2014 relates to the restricted stock unit awards that were granted to three individuals in connection with the IPO and primarily relates to the portion of the awards that were immediately vested.

General and administrative expenses

General and administrative expenses were $964,036 for the six months ended June 30, 2014, an increase of $75,856, or 8.5%, compared to $888,180 for the same period in 2013. The primary reason for the increase was due to an additional charge of $46,000, which resulted from a change in estimate related to the termination agreement signed with the landlord of a previously abandoned lease, $50,000 of additional consulting fees and $17,000 in increased insurance expense related to our IPO, offset by $48,000 of decreased legal costs primarily related to a tortious interference case which was initiated in 2012 and eventually settled in August 2013.

Research and development expenses

Research and development expenses were $17,730 for the six months ended June 30, 2014, a decrease of $50,833, or 74.1%, compared to $68,563 in the same period in 2013. The primary reason for the decrease in research and development expenses was due to the abandonment of certain research projects that were deemed to not be viable.

In the future, we expect research and development expenses to increase as we work to develop additional diagnostic tests and add indications to our MyPRS® test. We cannot estimate the amounts we will need to invest in order to achieve the new indications or new tests, nor do we know if we will be successful in these endeavors.

Interest expense

Interest expense was $1,016,647 for the six months ended June 30, 2014, compared to $937,222 for the same period in 2013. The primary reason for the increase was due to increased borrowings on our note payable to the related party. Due to the Debt Conversion that occurred on June 17, 2014, we expect that interest expense going forward will decrease significantly.

Net loss attributable to stockholders

For the foregoing reasons, we had a net loss attributable to stockholders of Signal Genetics, Inc. of $(3,994,728) for the six months ended June 30, 2014 compared to a net loss attributable to stockholders of Signal Genetics, Inc. of $(1,256,847) for the six months ended June 30, 2013.

Liquidity and Capital Resources

We had cash of $7,696,325 at June 30, 2014 compared to $209,348 at December 31, 2013, and total current liabilities of $2,137,301 at June 30, 2014 compared to $27,300,316 at December 31, 2013. As of June 30, 2014, we had working capital of approximately $7,631,000.

Prior to our IPO, our principal sources of cash were primarily borrowings on our note payable to the related party. We received net proceeds of approximately $6,144,000 from the IPO (after the payment of underwriter commissions and offering expenses). We expect that as our revenues grow, our operating expenses will grow and, as a result, we will need to generate significant additional net revenues to achieve profitability.

The Company has no material commitments for capital expenditures at this time.

At June 30, 2014, following the Debt Conversion, the Corporation Conversion and the IPO, the Company had positive working capital and stockholders' equity. Although we are forecasting continued losses and negative cash flows as we fund our selling and marketing activities and research and development programs, we believe that we have enough cash on hand to support operations at least through August 2015. Going forward, as we continue our selling and marketing activities and research and development programs, we may seek additional financing and/or strategic investments. However, there can be no assurance that any additional financing or strategic investments will be available on acceptable terms, if at all. If events or circumstances occur such that we do not obtain additional funding, we will most likely be required to reduce our plans and/or certain discretionary spending, which could have a material adverse effect on our ability to achieve our intended business objectives.

Operating activities

The following table sets forth our net cash used in operations for the periods indicated:

	Six Months Ended June 30,	
	2014	**2013**
Net loss	$ (3,994,728)	$ (1,076,847)
Non-cash adjustments	4,000,485	998,841
Changes in operating assets and liabilities	(390,980)	(342,190)
Net cash used in operating activities of discontinued operations	-	(93,875)
Net cash used in operations	$ (385,223)	$ (514,071)

We used $385,223 of net cash in operating activities in the six months ended June 30, 2014. Non-cash adjustments primarily reflect stock compensation of $2,874,740 and non-cash accrued interest on the note to the related party of $1,007,733. Changes in operating assets and liabilities primarily reflect a decrease in inventory of $163,501, offset by increases in accounts receivable of $365,395 and a decrease in lease termination/abandonment payable of $242,542. The increase in inventory was primarily due to timing of the receipt of supplies. The increase in accounts receivable was due to increased revenues in 2014 from our non-contracted customers, who have historically taken longer to pay. Our days sales outstanding ("DSO") for the six months ended June 30, 2014 also increased to 94 days from 89 days for the year ended December 31, 2013, due to the increased revenues from non-contracted customers. We do not know if collections will remain at these levels. Moreover, future collections may depend upon our ability to obtain in-network contracts with additional insurance providers. The decrease in the lease termination/abandonment payable was due to payments made on the now terminated lease.

We used $514,071 of net cash in operating activities in the six months ended June 30, 2013. Non-cash adjustments primarily reflect non-cash accrued interest on the note to the related party of $923,898. Changes in operating assets and liabilities primarily reflect decreases in accounts receivable and inventory of $65,658 and $78,440, respectively, offset by decreases in accounts payable and other accrued expenses and the lease termination/abandonment payable of $298,669 and $157,988, respectively. The primary reason for the decrease in accounts receivable was due to an improvement in our internal billing processes and the collection rate from third party providers. Our DSO for the six months ended June 30, 2013 was 94 days. The decrease in inventory was primarily due to a combination of timing of purchases combined with a decrease in material costs due to re-negotiations with a key supplier. The decreases in accounts payable and other accrued expenses were primarily due to payments and reductions in fees for legal and consulting services. The decrease in the lease termination/abandonment payable was due to payments made on the now terminated lease. The net cash used in operating activities of discontinued operations was primarily due to payments made for remaining liabilities of one of our subsidiaries.

Investing activities

We had $4,287 of net cash used in investing activities in the six months ended June 30, 2014 due primarily to purchases of property and equipment.

We had $10,498 of net cash provided by investing activities in the six months ended June 30, 2013 due primarily to decreases in security deposits.

As of this time, we plan to focus on our growth strategies and do not plan to use a material amount of the net proceeds for investing activities.

Financing activities

We generated $7,876,487 of net cash from financing activities during the six months ended June 30, 2014, primarily due to proceeds of $8,500,000 received from the IPO and $795,000 received from our note payable - related party, offset by $1,387,064 paid for deferred issuance costs.

We generated $638,099 of net cash from financing activities during the six months ended June 30, 2013, primarily due to the net proceeds of $848,544 from our note payable - related party, offset by distributions of $180,000.

Description of Indebtedness

Prior to the IPO, we historically borrowed money from our majority stockholder and various entities owned by him to support our operations. The majority of these borrowed amounts were converted into equity as part of the Debt Conversion, which occurred prior to the Corporate Conversion. As of June 30, 2014, the aggregate amount payable was $1,045,000, which amount is non-interest bearing and due on demand.

In addition, we acquired certain property and equipment through the issuance of a note payable totaling approximately $182,000 of which the balance at June 30, 2014 was approximately $11,000. The note is payable in thirty-six monthly installments of $5,320 through August 2014. The effective interest rate of the note is 3.4%. The related equipment is collateral for the note.

Related Party Transactions

See above for a description of our note payable to the related party.

Off-Balance Sheet Arrangements

As of each of June 30, 2014 and December 31, 2013, we were contingently liable for a standby letter of credit for $50,000 issued as a security deposit on a lease. We have approximately $50,000 of cash in a restricted account that is held as collateral for this letter of credit. Otherwise, we have no off-balance sheet arrangements.

Commitments and Contingencies

As of each of June 30, 2014 and December 31, 2013, other than our office and laboratory lease, employment agreements with key executive officers, a license agreement with UAMS and a services agreement with a third party to assist with collections from customers, we had no material commitments other than the liabilities reflected in our consolidated financial statements.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, revenues and expenses, and related disclosures in the financial statements. Critical accounting policies are those accounting policies that may be material due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change, and that have a material impact on financial condition or operating performance. While we base our estimates and judgments on our experience and on various other factors that we believe to be reasonable under the circumstances, actual results may differ from these estimates under different assumptions or conditions. We believe the following critical accounting policies used in the preparation of our consolidated financial statements require significant judgments and estimates. For additional information relating to these and other accounting policies, see Note 2 to our audited consolidated financial statements, appearing in the final prospectus filed with the SEC on June 19, 2014.

Revenue Recognition

We recognize revenue from testing services in accordance with the Financial Accounting Standards Board Accounting Standards Codification, or FASB ASC, 605, *Revenue Recognition*, which requires that four basic criteria be met before revenue can be recognized: (1) persuasive evidence that an arrangement exists; (2) delivery has occurred and title and the risks and rewards of ownership have been transferred to the client or services have been rendered; (3) the price is fixed or determinable; and (4) collectability is reasonably assured. The Company records revenues when confirmed tests results are delivered to the ordering physicians which are evidence that the services have been performed. Revenues are recorded on an accrual basis as the contractual obligations are completed and as a set of assays is processed through our laboratory under a specified contractual protocol. Revenues are billed to various payors, including Medicare, contracted insurance companies, directly billed customers (UAMS, pharmaceutical companies, reference laboratories and hospitals) and non-contracted insurance companies. The Company reports revenues from Medicare, contracted insurance companies and directly billed customers based on the contractual rate. The contractual rate is based on established, agreed upon rates between the Company and the respective payor and is the price invoiced by the Company. The Company reports revenues from non-contracted payors based on the amount expected to be collected which is based on the historical collection experience of each payor or payor group, as appropriate. The difference between the amount billed and the amount estimated to be collected from non-contracted payors is recorded as a contractual allowance at the same time the revenue is recognized, to arrive at reported net revenue. We do not record revenue from individuals for billings, deductibles or co-pays until cash is collected as collectability is not assured at the time services are provided, therefore there are no accounts receivable from self-payors. Gross revenues from individuals have been immaterial.

Our estimates of net revenue for non-contracted insurance companies are subject to change based on the contractual status and payment policies of the third-party payors with whom we deal. We regularly refine our estimates in order to make our estimated revenue as accurate as possible based on our most recent collection experience with each third-party payor. We regularly review our historical collection experience for non-contracted payors and adjust our expected revenues for current and subsequent periods accordingly. During the year ended December 31, 2012, we did not make any adjustments to our original revenue estimates for 2011, our first year of operations. During the year ended December 31, 2013 we recorded a change in estimate related to non-contracted revenues recorded during 2012 of $57,000 which caused a decrease in overall net revenues in 2013. This represented 6% of total non-contracted revenues during 2012 and 1% of our total net revenues for 2012. If we have a similar percentage reduction of 6% in our estimated amount to be collected from non-contracted payors on the uncollected accounts receivable from non-contracted payors at June 30, 2014 of $691,000, this could result in a $41,000 change in our financial position and results of operations.

Accounts Receivable and Allowance for Doubtful Accounts

We record accounts receivable net of an allowance for doubtful accounts. We estimate an allowance for doubtful accounts based on the aging of the accounts receivable and our historical collection experience for each type of payor. We have not had any bad debts from any of our contracted customers or noncontracted insurance companies, therefore there is no allowance for doubtful accounts recorded as of June 30, 2014 and December 31, 2013.

The following tables present our gross accounts receivable from customers outstanding by aging category reduced by total contractual allowances to arrive at the net accounts receivable balance at June 30, 2014 and December 31, 2013. Other than our direct bill customers, all of our receivables were pending approval by third-party payors as of the date that the receivables were recorded:

	June 30, 2014				
	0-30 Days	**31-60 Days**	**61-90 Days**	**Over 90**	**Total**
Medicare	$ 24,348	$ 35,586	$ 14,983	$ 126,523	$ 201,440
Contracted insurance companies	-	24,300	2,000	89,736	116,036
Direct bill	324,987	17,660	11,880	—	354,527
Non-contracted insurance companies	102,700	70,850	114,094	1,724,104	2,011,748
	452,035	148,396	142,957	1,940,363	2,683,751
Less: Contractual allowances	59,053	36,208	64,977	1,164,108	1,324,346
Accounts receivable, net	$ 392,982	$ 112,188	$ 77,980	$ 776,255	$ 1,359,405

	December 31, 2013				
	0-30 Days	**31-60 Days**	**61-90 Days**	**Over 90**	**Total**
Medicare	$ 20,602	$ 41,204	$ 19,799	$ 86,876	$ 168,481
Contracted insurance companies	20,000	10,000	14,000	54,352	98,352
Direct bill	185,064	13,220	19,570	—	217,854
Non-contracted insurance companies	67,150	114,550	126,400	1,245,367	1,553,467
	292,816	178,974	179,769	1,386,595	2,038,154
Less: Contractual allowances	35,952	70,426	73,886	863,880	1,044,144
Accounts receivable, net	$ 256,864	$ 108,548	$ 105,883	$ 522,715	$ 994,010

The days sales outstanding for the six months ended June 30, 2014 and the year ended December 31, 2013 was 94 and 89 days, respectively. The increase in the number of days is primarily due to increased revenues from our non-contracted insurance companies, which have historically taken longer to pay. The increase in the aging of our non-contracted insurance companies is also the result of inefficiencies we discovered in 2013 in our communication processes with third-party payors, which related to revenues from non-contracted insurance companies during 2012 and early 2013. Once discovered, we corrected these inefficiencies and delivered a large quantity of requested documents to our third-party payors, which we believe will result in our ability to fully collect on these revenues. In addition, now that these processes have been improved, we do not anticipate this type of delay in our future collections from third-party payors. Revenues from non-contracted insurance companies represented 18% and 13% of our total revenues during the six months ended June 30, 2014 and the year ended December 31, 2013, respectively. Since these customers are slower to pay, our accounts receivable over 90 days will increase if revenues to these customers continues to increase.

Equity Incentive Compensation

We recognize compensation expense in an amount equal to the estimated grant date fair value of each stock award over the estimated period of service and vesting. This estimation of the fair value of each stock-based grant or issuance on the date of grant involves numerous assumptions by management. The use of different values by management in connection with these assumptions could produce substantially different results.

Impairment of Long-Lived Assets

Our management reviews our long-lived assets with finite useful lives for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. We recognize an impairment loss when the sum of the future undiscounted net cash flows expected to be realized from the asset is less than its carrying amount. If an asset is considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the asset exceeds its fair value. Considerable judgment is necessary to estimate the fair value of the assets and accordingly, actual results could vary significantly from such estimates. Our most significant estimates and judgments relating to the long-lived asset impairments include the timing and amount of projected future cash flows.

Accounting for Income Taxes

Deferred income taxes result primarily from temporary differences between financial and tax reporting. Deferred tax assets and liabilities are determined based on the difference between the financial statement basis and tax basis of assets and liabilities using enacted tax rates. Future tax benefits are subject to a valuation allowance when management is unable to conclude that our deferred tax assets will more-likely-than-not be realized from the results of operations. Our estimate for the valuation allowance for deferred tax assets requires management to make significant estimates and judgments about projected future operating results. If actual results differ from these projections or if management's expectations of future results change, it may be necessary to adjust the valuation allowance.

Recent Accounting Pronouncements

We have reviewed all recently issued standards and have determined that other than as disclosed in Note 2 to the consolidated financial statements included herein, such standards will not have a material impact on our consolidated financial statements or do not apply to our operations.

Future Accounting Pronouncements

Section 107 of the JOBS Act provides that an emerging growth company, such as our company, can take advantage of an extended transition period for complying with new or revised accounting standards. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. Although to date, we have not yet taken advantage of this delay, we have elected to avail ourselves of this extended transition period for adopting new or revised accounting standards in the future. Therefore, we will not be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies. As a result of this election, our consolidated financial statements may not be comparable to companies that comply with public company effective dates. In the future, we may elect to opt out of the extended period for adopting new or revised accounting standards. If we do so, we will be required to disclose such decision, which will be irrevocable.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Not applicable to smaller reporting companies.

Item 4. Controls and Procedures.

Disclosure Controls and Procedures

In evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on that evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that our disclosure controls and procedures were not effective, at the reasonable assurance level, as of the end of the period covered by this report to ensure that information we are required to disclose in reports that we file or submit under the Securities Exchange Act of 1934, as amended, (1) is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms, and (2) is accumulated and communicated to management, including our Chief Executive Officer and our Chief Financial Officer as appropriate to allow timely decisions regarding required disclosure because of the continued existence of the material weakness in our internal control over financial reporting described below under "—Internal Control Over Financing Reporting."

Internal Control Over Financial Reporting

We are not required to comply with Section 404 of the Sarbanes-Oxley Act under applicable rules for newly public companies and are therefore not required to make an assessment of the effectiveness of our internal control over financial reporting. As a result, our management has not yet performed an evaluation of our internal control over financial reporting. Further, our independent registered public accounting firm is not yet required to, nor have they been engaged to express, nor have they expressed, an opinion on the effectiveness of our internal control over financial reporting. However, in connection with the audit of our consolidated financial statements as of and for the years ended December 31, 2013 and 2012, we identified a material weakness in our internal control over financial reporting. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our consolidated financial statements will not be prevented or detected on a timely basis. The material weakness identified was due to a lack of accounting and finance personnel and the reliance on outside consultants. As such, our controls over financial reporting were not designed or operating effectively, and as a result there were adjustments required in connection with closing our books and records and preparing our December 31, 2013 and 2012 consolidated financial statements that were made by outside consultants.

In an effort to remediate this material weakness, effective August 4, 2014, we hired a Chief Financial Officer with public company financial reporting expertise to build our financial management and reporting infrastructure, and further develop and document our accounting policies and financial reporting procedures.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting during the period covered by this Quarterly Report on Form 10-Q.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

Not applicable.

Item 1A. Risk Factors.

Any investment in our securities involves a high degree of risk. Investors should carefully consider the risks described below and all of the information contained in this Quarterly Report on Form 10-Q before deciding whether to purchase our common stock. Our business, financial condition or results of operations could be materially adversely affected by these risks if any of them actually occur. This Quarterly Report on Form 10-Q also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks we face as described below and elsewhere in this Quarterly Report on Form 10-Q.

Risks Related to our Financial Condition

We are an early stage company with a limited commercial history and a history of net losses; we expect to incur net losses in the future, and we may never achieve sustained profitability.

We have a limited commercial history. Since our inception, we have devoted substantial effort to develop our products and services and have incurred losses and negative cash flows from operations. We expect our losses to continue as a result of ongoing research and development expenses and increased selling and marketing costs. These losses have had, and will continue to have, an adverse effect on our working capital, total assets and members' equity. Because of the numerous risks and uncertainties associated with our research, development and commercialization efforts, we are unable to predict when we will become profitable, and we may never become profitable. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our inability to achieve and then maintain profitability would negatively affect our business, financial condition, results of operations and cash flows.

We will need to raise additional capital.

We will need to secure additional financing in order to support our operations. We can provide no assurances that any additional sources of financing will be available to us on favorable terms, if at all. Our forecast of the period of time through which our current financial resources will be adequate to support our operations and the costs to support our general and administrative, selling and marketing and research and development activities are forward-looking statements and involve risks and uncertainties.

We will also need to raise additional capital to expand our business to meet our long-term business objectives. Additional financing, which is not in place at this time, may be from the sale of equity or convertible or other debt securities in a public or private offering, from a credit facility or strategic partnership coupled with an investment in us or a combination of both. We may be unable to raise sufficient additional financing on terms that are acceptable to us, if at all.

If events or circumstances occur such that we are unable to obtain additional funding, we will most likely be required to reduce our plans and/or certain discretionary spending, which could have a material adverse effect on our ability to achieve our intended business objectives. For further discussion of our liquidity requirements as they relate to our long-term plans, see the section entitled "Liquidity and Capital Resources."

Risks Related to our Business

If we are unable to obtain adequate coverage and reimbursement for our tests, it is unlikely that our tests will gain widespread acceptance.

Maintaining and growing revenues from MyPRS® depends on the availability of adequate coverage and reimbursement for our tests from third-party payors, including government programs such as Medicare and Medicaid, private insurance plans and managed care programs. Health care providers that order diagnostic services such as MyPRS® generally expect that those diagnostic services are covered and reimbursed by third-party payors for all or part of the costs and fees associated with the diagnostic tests they order. If such diagnostic tests are not covered and reimbursed, then their patients may be responsible for the entire cost of the test, which can be substantial. Therefore, health care providers generally do not order tests that are not covered and reimbursed by third-party payors in order to avoid subjecting their patients to such financial liability. The existence of adequate coverage and reimbursement for the procedures performed with MyPRS® by government and private insurance plans is central to the acceptance of MyPRS® and any future services we provide. During the past several years, third-party payors have undertaken cost-containment initiatives including different payment methods, monitoring health care expenditures, and anti-fraud initiatives. In addition, the Centers for Medicine & Medicaid Services ("CMS"), which administers the Medicare program, has taken the position that the algorithm portion of multi-analyte algorithmic assays ("MAAAs"), such as MyPRS® is not a clinical laboratory test and is therefore not reimbursable under the Medicare program. Although this position is only applicable to tests with a CMS determined national payment amount, it is possible that the local Medicare Administrative Contractor ("MAC"), who make coverage and payment determinations for tests like MyPRS® may adopt this policy and reduce payment for MyPRS®. If that were to happen, reimbursement might be made for each gene used in the MyPRS® test and coverage and the amount of reimbursement for the genes we use in MyPRS® would be uncertain. We may not be able to achieve or maintain profitability if third-party payors deny coverage or reduce their current levels of payment, or if our costs of production increase faster than increases in reimbursement levels. Further, many private payors use coverage decisions and payment amounts determined by CMS as guidelines in setting their coverage and reimbursement policies. Future action by CMS or other government agencies may diminish payments to clinical laboratories, physicians, outpatient centers and/or hospitals. Those private payors that do not follow the Medicare guidelines may adopt different coverage and reimbursement policies for MyPRS® and coverage and the amount of reimbursement under those polices is uncertain. For some governmental programs, such as Medicaid, coverage and reimbursement differ from state to state, and some state Medicaid programs may not pay an adequate amount for MyPRS® or may make no payment at all. As the portion of the U.S. population over the age of 65 and eligible for Medicare continues to grow, we may be more vulnerable to coverage and reimbursement limitations imposed by CMS. Furthermore, the health care industry in the United States has experienced a trend toward cost containment as government and private insurers seek to control health care costs by imposing lower payment rates and negotiating reduced contract rates with service providers. Therefore, we cannot be certain that our services will be reimbursed at a level that is sufficient to meet our costs.

A small number of test ordering sites account for most of the sales of our tests and services. If any of these sites orders fewer tests from us for any reason, our revenues could decline.

Due to the early stage nature of our business and our limited selling and marketing activities to date, we have historically derived a significant portion of our revenue from a limited number of test ordering sites. In particular, the most significant portion of our revenue is generated from our MyPRS® test services provided at our clinical laboratory in Little Rock, Arkansas for UAMS. Revenue sourced either from or through UAMS accounted for approximately 81% of our revenue for the six months ended June 30, 2014, 83% of our revenue for the year ended December 31, 2013 and 86% of our revenue for the year ended December 31, 2012. Accounts receivable sourced from or through UAMS at June 30, 2014, December 31, 2013 and 2012 accounted for approximately 65%, 62% and 85%, respectively.

Our test ordering sites are largely hospitals and cancer centers. Oncologists and pathologists at these sites order the tests on behalf of their oncology patients or as part of a clinical trial sponsored by a pharmaceutical company in which the patient is enrolled. We generally do not enter into formal written agreements with such test ordering sites and, as a result, we may lose the business of any of these test ordering sites at any time.

There is a scarcity of experienced professionals in our industry. If we are not able to retain and recruit personnel with the requisite technical skills, we may be unable to successfully execute our business strategy.

The specialized nature of our industry results in an inherent scarcity of experienced personnel in the field. Our future success depends upon our ability to attract and retain highly skilled personnel (including medical, scientific, technical, commercial, business, regulatory and administrative personnel) necessary to support our anticipated growth, develop our business and perform certain contractual obligations. Given the scarcity of professionals with the scientific knowledge that we require and the competition for qualified personnel among life science businesses, we may not succeed in attracting or retaining the personnel we require to continue and grow our operations. The loss of a key employee, the failure of a key employee to perform in his or her current position or our inability to attract and retain skilled employees could result in our inability to continue to grow our business or to implement our business strategy.

We will need to generate significant revenues to become and remain profitable.

We intend to increase our operating expenses substantially as we add sales representatives to increase our geographic sales coverage, increase our marketing capabilities, conduct clinical trials and increase our general and administrative functions to support our growing operations. We will need to generate significant sales to achieve and maintain profitability and we might not be able to do so. Even if we do generate significant sales, we might not be able to become profitable or sustain or increase profitability on a quarterly or annual basis in the future. If our sales grow more slowly than we anticipate or if our operating expenses exceed our expectations, our financial performance will likely be adversely affected.

If we are unable to increase sales of our laboratory tests and services or to successfully develop and commercialize other indications for our proprietary tests, our revenues will be insufficient for us to achieve profitability.

Our revenue is derived primarily from our laboratory testing services. We currently offer our MyPRS® test through our state-of-the-art laboratory located in Little Rock, Arkansas, which has been certified under the Clinical Laboratory Improvement Amendments of 1988 ("CLIA"). MyPRS® is not assigned a specific CPT code, but our local MAC and Blue Cross Blue Shield of Arkansas have established a specific payment amount for the test, which is billed under a nonspecific code. We are in varying stages of research and development for other diagnostic tests that we may offer. We do not currently offer any other testing services. If we are unable to increase sales of MyPRS® or to successfully develop and commercialize other diagnostic tests, we will not produce sufficient revenues to become profitable. Our laboratory testing services are expensive and may be a negative factor for reimbursement.

Our business depends on our ability to successfully develop and commercialize novel cancer diagnostic tests and services, which is time consuming and complex, and our development efforts may fail.

Our current business strategy focuses on discovering, developing and commercializing molecular diagnostic tests and services. We believe the success of our business depends on our ability to fully commercialize our existing diagnostic tests and services and to develop and commercialize new diagnostic tests. In particular, it is essential to our business strategy that we expand the indications for use of MyPRS®. The first additional indications for which we hope MyPRS® will be used include monoclonal gammopathy of undetermined significance (MGUS) and asymptomatic or 'smoldering' multiple myeloma (AMM). Collectively, these precursor conditions are referred to as AMG. However, we may be unsuccessful and MyPRS® may never be used for these indications. We may not succeed because it may never be accepted by the oncologist community, third-party payors may not pay for it, and the recent peer-reviewed publication that could support these indications for MyPRS® may not be sufficient to drive adoption support coverage and reimbursement and the results may not be duplicated in additional studies.

In addition, prior to commercializing our diagnostic tests, we must undertake time-consuming and costly development activities, sometimes including clinical studies, and may be required to obtain regulatory clearance or approval, which may be denied. This development process involves a high degree of risk, substantial expenditures and will occur over several years. Our development efforts may fail for many reasons, including:

- failure of the tests at the research or development stage;
- difficulty in accessing archival tissue samples, especially tissue samples with known clinical results; or
- lack of clinical validation data to support the effectiveness of the test.

Tests that appear promising in early development may fail to be validated in subsequent studies, and even if we achieve positive results, we may ultimately fail to obtain the necessary regulatory clearances, approvals or coverage and reimbursement. There is substantial risk that our research and development projects will not result in commercially viable tests, and that success in early clinical trials will not be replicated in later studies. At any point, we may abandon development of a test or be required to expend considerable resources repeating clinical trials, which would adversely impact our ability to generate revenues from that test. In addition, as we develop tests, we will have to make significant investments in research, development and marketing resources. If a clinical validation study of a particular test fails to meet its endpoint, we might choose to abandon the development of that test. Further, our ability to develop and launch diagnostic tests will likely depend on our receipt of additional funding beyond that obtained by this IPO. If our discovery and development programs yield fewer commercial tests than we expect, we may be unable to execute our business plan, which may adversely affect our business, financial condition and results of operations.

We may acquire other businesses or form joint ventures or make investments in other companies or technologies that could harm our operating results, dilute our stockholders' ownership, increase our debt or cause us to incur significant expense.

As part of our business strategy, we may pursue acquisitions of businesses and assets. We also may pursue strategic alliances and joint ventures that leverage our core technology and industry experience to expand our offerings or distribution. For example, we may seek to purchase or license proprietary tests for other cancer indications or tests that complement our current offering for MM patients. We have limited experience with acquiring other companies and limited experience with forming strategic alliances and joint ventures. We may not be able to find suitable partners or acquisition candidates, and we may not be able to complete such transactions on favorable terms, if at all. If we make any acquisitions, we may not be able to integrate these acquisitions successfully into our existing business, and we could assume unknown or contingent liabilities. Any future acquisitions also could result in significant write-offs or the incurrence of debt and contingent liabilities, any of which could have a material adverse effect on our financial condition, results of operations and cash flows. Integration of an acquired company also may disrupt ongoing operations and require management resources that would otherwise focus on developing our existing business. We may experience losses related to investments in other companies, which could have a material negative effect on our results of operations. We may not identify or complete these transactions in a timely manner, on a cost-effective basis, or at all, and we may not realize the anticipated benefits of any acquisition, technology license, strategic alliance or joint venture.

To finance any acquisitions or joint ventures, we may choose to issue shares of our common stock as consideration, which would dilute the ownership of our stockholders. If the price of our common stock is low or volatile, we may not be able to acquire other companies or fund a joint venture project using our stock as consideration. Alternatively, it may be necessary for us to raise additional funds for acquisitions through public or private financings. Additional funds may not be available on terms that are favorable to us, or at all.

If we are unable to obtain regulatory clearance or approvals in the United States or if we experience delays in receiving clearance or approvals, our growth strategy may not be successful and our business may not be viable.

We currently offer our proprietary laboratory services in our CLIA-certified laboratory. Because we currently offer these tests and services solely for use within our laboratory, we believe we may market the tests as Laboratory Developed Tests ("LDTs"). Under current U.S. Food and Drug Administration ("FDA") enforcement policies and guidance, LDTs generally do not require FDA pre-market clearance or approval before commercialization, and we have marketed our LDTs on that basis. The FDA may, in the future, change this regulatory policy and require pre-market approvals ("PMAs"), for LDTs. Please see the risk factor below - "***If the FDA were to begin requiring approval or clearance of our tests, we could incur substantial costs and time delays associated with meeting requirements for pre-market clearance or approval or we could experience decreased demand for, or reimbursement for our tests."*** We may be unable to obtain PMAs for our tests, which could make it impossible for us to legally market our services, which would mean that our business may not be viable.

If we are unable to execute our marketing strategy for our cancer diagnostic tests and are unable to gain acceptance in the market, we may be unable to generate sufficient revenue to sustain our business.

We are an early-stage company and have engaged in only limited selling and marketing activities for MyPRS®. There is not currently widespread awareness or adoption of our MyPRS® testing system. Although we believe that MyPRS® represents a promising commercial opportunity, it may never gain significant acceptance in the marketplace and therefore may never generate substantial revenue or profits for us. This is also true for any additional diagnostic tests we may market. We will need to establish a market for our diagnostic tests and build that market through physician education and awareness programs. Gaining acceptance in medical communities requires publication in leading peer-reviewed journals of results from studies using our tests. The process of publication in leading medical journals is subject to a peer review process and peer reviewers may not consider the results of our studies sufficiently novel or worthy of publication. Failure to have our studies published in peer-reviewed journals would limit the adoption of our tests and future coverage and reimbursement decisions for our tests could be negatively affected.

Our ability to successfully market the diagnostic tests that we may develop will depend on numerous factors, including:

- whether health care providers believe our diagnostic tests are clinically useful;
- whether the medical community accepts that our diagnostic tests are sufficiently sensitive and specific to be meaningful in patient care and treatment decisions; and
- whether health insurers, government health programs and other third-party payors will cover and pay for our diagnostic tests and, if so, whether they will adequately reimburse us.

If any of these do not occur, we could fail to achieve widespread market acceptance of our diagnostic tests and our business would be materially harmed, as would our financial condition and results of operations.

If we cannot develop tests to keep pace with rapid advances in technology, medicine and science, our operating results and competitive position could be harmed.

In recent years, there have been numerous advances in technologies relating to the diagnosis and treatment of cancer. There are several new cancer drugs under development that may increase patient survival time. There have also been advances in methods used to analyze very large amounts of genomic information. We must continuously develop new tests and enhance our existing tests to keep pace with evolving standards of care. Our tests could become obsolete unless we continually innovate and expand them to demonstrate benefit in patients treated with new therapies. New cancer therapies typically have only a few years of clinical data associated with them, which limits our ability to perform clinical studies and correlate sets of genes to a new treatment's effectiveness. We plan to fund continued clinical development of the AMG indication for our MyPRS® test. We may experience research and development, regulatory, market or other difficulties that could delay or prevent our introduction of new or enhanced tests. The research and development process generally takes a significant amount of time from design stage to product launch, and we may have to abandon a test in which we have devoted substantial resources and time. We cannot be certain that any tests we seek to develop will prove to be effective; that we will be able to obtain, in a timely manner or at all, necessary regulatory approvals; that the tests we develop can be provided at acceptable costs, with appropriate quality or that they will be covered or reimbursed; or that, if developed, these tests will be successfully marketed and achieve community acceptance. If we cannot adequately demonstrate the applicability of our tests to new treatments, sales of our tests and services could decline, which would have a material adverse effect on our business, financial condition and results of operations.

If our tests do not continue to perform as expected, our operating results, reputation and business will suffer.

Our success depends on the market's confidence that we can continue to provide reliable, high-quality diagnostic tests. We believe that our customers are likely to be particularly sensitive to test defects and errors, such as false positive or false negative results which could affect the patient's eventual diagnosis and/or treatment. As a result, the failure of our tests or services to perform as expected would significantly impair our reputation and the public image of our tests and services, and we may be subject to legal claims arising from any defects or errors.

We may implement a product recall or voluntary market withdrawal of MyPRS® due to test defects or enhancements and modifications, which would significantly increase our costs.

The marketing of MyPRS® and any future diagnostic tests that we may develop involves an inherent risk that such tests may prove to be defective. In that event, we may voluntarily implement a market withdrawal of such tests or may be required to do so by a regulatory authority. A recall of MyPRS® or one of our future diagnostic tests, or a similar product or service offered by another provider, could impair sales of the services we market as a result of confusion concerning the scope of the recall or as a result of the damage to our reputation for quality and safety.

We rely on a limited number of third parties for manufacture and supply of all of our laboratory instruments, tests and materials, and we may not be able to find replacement suppliers or manufacturers in a timely manner in the event of any disruption, which could adversely affect our business.

We rely on third parties for the manufacture and supply of all of our laboratory instruments, equipment and materials, such as reagents, microarray chips and disposable test kits, that we need to perform our specialized diagnostic services, and rely on a limited number of suppliers for certain laboratory materials and some of the laboratory equipment with which we perform our diagnostic services. We do not have long-term contracts with our suppliers and manufacturers that commit them to supply equipment and materials to us. Certain of our suppliers provide us with analyte specific regents ("ASRs"), which serve as building blocks in the diagnostic tests we conduct in our laboratory. These suppliers are subject to regulation by the FDA, and must comply with federal regulations related to the manufacture and distribution of ASR products. Because we cannot ensure the actual production or manufacture of such critical equipment and materials, or the ability of our suppliers to comply with applicable legal and regulatory requirements, we may be subject to significant delays caused by interruption in production or manufacturing. If any of our third-party suppliers or manufacturers were to become unwilling or unable to provide this equipment or these materials in required quantities or on our required timelines, we would need to identify and acquire acceptable replacement sources on a timely basis. While we have developed alternate sourcing strategies for the equipment and materials we use, we cannot be certain that these strategies will be effective and even if we were to identify other suppliers and manufacturers for the equipment and materials we need to perform our specialized diagnostic services, there can be no assurance that we will be able to enter into agreements with such suppliers and manufacturers or otherwise obtain such items on a timely basis or on acceptable terms, if at all. If we encounter delays or difficulties in securing necessary laboratory equipment or materials, including consumables, we would face an interruption in our ability to perform our specialized diagnostic services and experience other disruptions that would adversely affect our business, results of operations and financial condition.

If our sole laboratory facility becomes damaged or inoperable, or we are required to vacate the facility, our ability to provide services and pursue our research and development efforts may be jeopardized.

We currently derive substantially all of our revenues from our laboratory testing services. We do not have any clinical reference laboratory facilities other than our facility in Little Rock, Arkansas. Our facilities and equipment could be harmed or rendered inoperable by natural or man-made disasters, including fire, flooding and power outages, which may render it difficult or impossible for us to perform our tests or provide laboratory services for some period of time. The inability to perform our tests or the backlog of tests that could develop if our facility is inoperable for even a short period of time may result in the loss of customers or harm to our reputation or relationships with collaborators, and we may be unable to regain those customers or repair our reputation in the future. Furthermore, our facilities and the equipment we use to perform our research and development work could be costly and time-consuming to repair or replace, which could further delay our ability to provide our testing services.

Additionally, a key component of our research and development process involves using biological samples and the resulting data sets and medical histories, as the basis for our diagnostic test development. In some cases, these samples are difficult to obtain. If the parts of our laboratory facility where we store these biological samples are damaged or compromised, our ability to pursue our research and development projects, as well as our reputation, could be jeopardized. We carry insurance for damage to our property and the disruption of our business, but this insurance may not be sufficient to cover all of our potential losses and may not continue to be available to us on acceptable terms, if at all.

Further, if our laboratory became inoperable, we may not be able to license or transfer our proprietary technology to a third party, with established state licensure and CLIA certification under the scope of which our diagnostic tests could be performed following validation and other required procedures, to perform the tests. Even if we find a third party with such qualifications to perform our tests, such party may not be willing to perform the tests for us on commercially reasonable terms. We may have to reapply for state licensure and CLIA certification if we are unable to find a third party with such qualifications.

If we fail to properly manage our anticipated growth, our business could suffer.

Our growth has placed, and will continue to place, a significant strain on our management and on our operational and financial resources and systems. Failure to manage our growth effectively could cause us to over-invest or under-invest, and result in losses or weaknesses. Additionally, our anticipated growth will increase the demands placed on our suppliers, resulting in an increased need for us to carefully monitor for quality assurance. Any failure by us to manage our growth effectively could have an adverse effect on our ability to achieve our development and commercialization goals.

Fluctuations in insurance cost and availability could adversely affect our profitability or our risk management profile.

We hold a number of insurance policies, including product liability insurance, property insurance, workers' compensation insurance anddirectors' and officers' liability insurance. If the costs of maintaining adequate insurance coverage increase significantly in the future, our operating results and cash flow could be materially adversely affected. Likewise, if any of our current insurance coverage should become unavailable to us or become economically impractical, we would be required to operate our business without indemnity from commercial insurance providers. If we operate our business without insurance, we could be responsible for paying claims or judgments against us that would have otherwise been covered by insurance, which could adversely affect our results of operations or financial condition.

If we cannot compete successfully with our competitors, we may be unable to increase or sustain our revenues or achieve and sustain profitability.

Our principal competition comes from the existing mainstream diagnostic methods that pathologists and oncologists use and have used for many years. It may be difficult to change the methods or behavior of the referring pathologists and oncologists to incorporate our molecular diagnostic testing in their practices. However, we believe that we can introduce our diagnostic tests successfully due to their clinical utility and the desire of pathologists and oncologists to find solutions for more accurate diagnosis, prognosis and personalized treatment options for MM and AMG patients. But this is not certain and if the health care providers who are in a position to order our tests do not adopt them, it could adversely affect our business.

We also face competition from companies that currently offer or are developing products to profile genes, gene expression or protein biomarkers in various cancers. Personalized genetic diagnostics is a new area of science, and we cannot predict what tests others will develop that may compete with or provide results superior to the results we are able to achieve with the tests we develop. Our competitors include public companies such as NeoGenomics, Inc., Quest Diagnostics, Abbott Laboratories, Inc., Johnson & Johnson, Roche Molecular Systems, Inc., bioTheranostics, Inc. (part of bioMérieux SA), Genomic Health, Inc., Myriad Genetics Inc., Qiagen N.V., Foundation Medicine, Inc., Response Genetics, Inc., Cancer Genetics, Inc., and many private companies, including Agendia B.V. Another source of competition comes from other scientific teams attempting to develop GEP signatures utilizing other genes or a subset of the genes utilized in our MyPRS® test. Two groups of note include the French IFM-15 gene signature and the Netherlands EMC-92 gene signature which have been studied by independent groups and compared to the UAMS GEP test, or MyPRS®.

We provide services in a segment of the health care industry that is highly fragmented and extremely competitive. Any failure to respond to technological advances and emerging industry standards could impair our ability to attract and retain clients. This industry is characterized by rapid technological change. It is anticipated that competition will continue to increase due to such factors as the potential for commercial applications of biotechnology and the continued availability of investment capital and government funding for cancer-related research. Our competitors may succeed in developing diagnostic tests and/or services that are superior to our tests and technologies, including our pipeline tests. This could render our tests obsolete and, as a result, they might not be ordered, thus impairing the viability of our business.

We expect that pharmaceutical and biopharmaceutical companies will increasingly focus attention and resources on the personalized diagnostic sector as the potential and prevalence increases for molecularly targeted oncology therapies approved by the FDA along with companion diagnostics. For example, the FDA has recently approved two such agents — Xalkori crizotinib from Pfizer Inc. along with its companion anaplastic lymphoma kinase fluorescence in situ hybridization (FISH) test from Abbott Laboratories, Inc. and Zelboraf vemurafenib from Genentech USA Incorporated and Daiichi-Sankyo Inc. along with its companion B-RAF kinase V600 mutation test from Roche Molecular Systems, Inc. These two recent FDA approvals are only the second and third instances of simultaneous approvals of a drug and companion diagnostic, the first being the 1998 approval of Genentech, Inc.'s Herceptin trastuzumab for HER2 positive breast cancer along with the HercepTest from partner Dako A/S.

We also face competition from companies such as Genoptix, Inc. (a Novartis AG company), Clarient, Inc. (a division of GE Healthcare, a unit of General Electric Company), Bio-Reference Laboratories, Inc., Intergrated Genetics (a LabCorp Specialty Testing Group) and Foundation Medicine, Inc., which offer products or services or have conducted research to develop genetic profiles, or genetic or protein biomarkers for various cancers. Additionally, projects related to cancer genomics have received increased government funding, both in the United States and internationally. As more information regarding cancer genomics becomes available to the public, we anticipate that more products and services aimed at predicting patient outcome as well as identifying targeted treatment options will be developed and that these products and services may compete with the services we offer. In addition, competitors may develop their own versions of our tests in countries where we did not apply for patents or where our patents have not issued and compete with us in those countries, including promoting the use of their test(s) by physicians or patients in other countries.

Many of our present and potential competitors have widespread brand recognition and substantially greater financial and technical resources and development, production and marketing capabilities than we do. Others may develop lower-priced, less complex tests that payors, pathologists and oncologists could view as functionally equivalent to our tests, which could force us to lower the list price of our tests and impact our operating margins and our ability to achieve profitability. In addition, technological innovations that result in the creation of enhanced diagnostic tools may enable other clinical laboratories, hospitals, physicians or medical providers to provide specialized diagnostic services similar to ours in a more patient-friendly, efficient or cost-effective manner than is currently possible. If we cannot compete successfully against current or future competitors, we may be unable to increase market acceptance and sales of our tests, which could prevent us from increasing or sustaining our revenues or achieving or sustaining profitability.

We expect to continue to incur significant expenses to develop and market our diagnostic tests, which could make it difficult for us to achieve and sustain profitability.

In recent years, we have incurred significant costs in connection with the development of our diagnostic tests. For the six months ended June 30, 2014, our research and development expenses were $18,000, which was 0.7% of our net revenue, and our selling and marketing expenses were $147,000, which was 6.2% of our net revenue. For the year ended December 31, 2013, our research and development expenses were $97,000, which was 2.2% of our net revenue, and our selling and marketing expenses were $379,000, which was 8.8% of net revenue. For the year ended December 31, 2012, our research and development expenses were $225,000, which was 5.1% of our net revenue, and our selling and marketing expenses were $1.3 million, which was 30.1% of net revenue. We expect our expenses to continue to increase, in absolute dollars, for the foreseeable future as we seek to expand the clinical utility of our diagnostic tests, and work to drive adoption of and reimbursement for our diagnostic tests and develop new tests. As a result, we will need to generate significant revenues in order to achieve sustained profitability.

If pathologists and oncologists decide not to order our diagnostic tests, we may be unable to generate sufficient revenue to sustain our business.

To increase awareness and adoption of our molecular diagnostic tests and services, we will need to educate oncologists and pathologists on the clinical utility, benefits and value of each type of test we provide through published papers, presentations at scientific conferences and one-on-one education sessions by members of our sales force. In addition, we will need to assure oncologists and pathologists of our ability to obtain and maintain adequate reimbursement coverage from third-party payors. We may need to hire additional commercial, scientific, technical, selling and marketing and other personnel to support this process. If our educational efforts fail and medical practitioners do not order our diagnostic tests or other tests we may develop, utilization of our tests in sufficient volume for us to achieve sustained profitability or, perhaps, viability, may not be possible.

We depend on third parties for the supply of certain tissue samples and biological materials that we use in our research and development efforts. If these costs increase or our third party collaborators terminate their relationship with us, our business may be materially harmed.

Under standard clinical practice in the United States, tumor biopsies removed from patients are chemically preserved, embedded in paraffin wax and stored. Our clinical development relies on our ability to access these archived tumor biopsy samples, as well as information pertaining to their associated clinical outcomes. Other companies often compete with us for access. Additionally, the process of negotiating access to archived samples is lengthy, because it typically involves numerous parties and approvals to resolve complex issues such as usage rights, institutional review board approval, privacy rights, publication rights, intellectual property ownership and research parameters.

UAMS and other institutions provide us with tissue samples and other biological materials that we use in developing and validating our tests. We do not have written agreements with some of these third parties, and, in many of the cases in which the agreements are in writing, our relationships with such third parties are terminable on 30 days' notice or less. Disagreements or disputes might cause delays or termination of the research, development or commercialization of testing systems or additional test indications, might lead to additional responsibilities or costs to us or might result in litigation or arbitration, any of which could divert management attention and resources and be time-consuming and expensive. If one or more of these suppliers terminate their relationship with us, we will need to identify other third parties to provide us with tissue samples and biological materials, which could result in a delay in our research and development activities and negatively affect our business. In addition, as we grow, research and academic institutions may begin to seek financial contributions from us, which may negatively affect our results of operations. Potential suppliers may elect not to work with us based on their assessment of our financial, regulatory or intellectual property position. Even if we establish new agreements, this may not result in the successful development of future testing systems or additional test indications.

The loss of our Chairman or key members of our executive management team could adversely affect our business.

Our success in implementing our business strategy depends largely on the skills, experience and performance of the Chairman of our board of directors, Bennett S. LeBow, key members of our executive management team and others in key management positions, including Samuel D. Riccitelli, our President and Chief Executive Officer, and Tamara A. Seymour, our Chief Financial Officer. The collective efforts of each of these persons working as a team will be critical to us as we continue to develop our technologies, tests and research and development and sales programs. As a result of the difficulty in locating qualified new management, the loss or incapacity of existing members of our executive management team could adversely affect our operations. If we were to lose one or more of these key employees, we could experience difficulties in finding qualified successors, competing effectively, developing our technologies and implementing our business strategy. Our President and Chief Executive Officer, Samuel D. Riccitelli, our Chief Financial Officer, Tamara A. Seymour, our Senior Vice President of Commercial Strategy and Business Development, Michael C. Cerio, and our Vice President of Research and Operations, Ryan Van Laar, Ph.D., each have employment agreements with us. However, the existence of an employment agreement does not guarantee retention of members of our executive management team or our key employees and we may not be able to retain those individuals for the duration of or beyond the end of their respective terms.

In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

Our inability to attract, hire and retain a sufficient number of qualified sales professionals would hamper our ability to increase demand for our tests, to expand geographically and to successfully commercialize any other diagnostic tests or products we may develop.

Our success in selling our clinical laboratory services, diagnostic tests and any other tests or products that we are able to develop will require us to expand our sales force in the United States and internationally by recruiting additional sales representatives with extensive experience in oncology and close relationships with medical oncologists, surgeons, pathologists and other hospital personnel. To achieve our marketing and sales goals, we will need to substantially expand our sales and commercial infrastructure, with which to date we have had little experience. Sales professionals with the necessary technical and business qualifications are in high demand, and there is a risk that we may be unable to attract, hire and retain the number of sales professionals with the right qualifications, scientific backgrounds and relationships with decision-makers at potential customers needed to achieve our sales goals. We may face competition from other companies in our industry, some of whom are much larger than us and who can pay greater compensation and benefits than we can, in seeking to attract and retain qualified selling and marketing employees. If we are unable to hire and retain qualified selling and marketing personnel, our business will suffer.

Some of our future contract manufacturers and distributors may be located outside of the United States, which may subject us to increased complexity and costs.

In the future we may need to rely on manufacturing or laboratory facilities located outside the United States for our tests. Our MyPRS® and future test sales may be subject to certain risks, including:

- difficulty in obtaining, maintaining or enforcing intellectual property rights in some countries;
- local business and cultural factors that differ from our normal standards and practices;
- foreign currency exchange fluctuations;
- additional U.S., and new foreign regulatory requirements;
- impediments to the flow of foreign exchange capital payments and receipts due to exchange controls instituted by certain foreign governments and the fact that local currencies of some countries are not freely convertible;
- geopolitical and economic instability and military conflicts;
- difficulties in managing international partners;
- burdens of complying with a variety of foreign laws and treaties and changes in local laws and regulations, including tax laws;
- increased financial accounting and reporting burdens;
- difficulty in enforcing agreements, judgments and arbitration awards in foreign jurisdictions; and
- adverse economic conditions in any jurisdiction.

These factors could harm our business or results of operations.

If we were sued for product liability or professional liability, we could face substantial liabilities that exceed our resources.

The marketing, sale and use of our tests could lead to the filing of product liability claims were someone to allege that our tests failed to perform as designed. We may also be subject to liability for errors in the test results we provide to pathologists and oncologists or for a misunderstanding of, or inappropriate reliance upon, the information we provide. A product liability or professional liability claim could result in substantial damages and be costly and time-consuming for us to defend.

Although we believe that our existing product and professional liability insurance is adequate, our insurers may fail to defend us or our insurance may not fully protect us from the financial impact of defending against product liability or professional liability claims. Any product liability or professional liability claim brought against us, with or without merit, could increase our insurance rates or prevent us from securing insurance coverage in the future. Additionally, any product liability lawsuit could damage our reputation, or cause current clinical partners and collaborators to terminate existing agreements and potential clinical partners to seek other partners, cause customers to terminate their relationship with us and potential customers to seek alternative testing solutions, any of which could impact our results of operations.

If we use biological and hazardous materials in a manner that causes injury, we could be liable for damages.

Our activities currently require the controlled use of potentially harmful biological materials and hazardous materials and chemicals. We cannot eliminate the risk of accidental contamination or injury to employees or third parties from the use, storage, handling or disposal of these materials. In the event of contamination or injury, we could be held liable for any resulting damages, and any liability could exceed our resources or any applicable insurance coverage we may have. Additionally, we are subject to, on an ongoing basis, federal, state and local laws and regulations governing the use, storage, handling and disposal of these materials and specified waste products. The cost of compliance with these laws and regulations may become significant and could have a material adverse effect on our financial condition, results of operations and cash flows. In the event of an accident or if we otherwise fail to comply with applicable regulations, we could lose our permits or approvals or be held liable for damages or penalized with fines.

If we cannot support demand for our tests, including successfully managing the evolution of our technology and manufacturing platforms, our business could suffer.

As our test volume grows, we will need to increase our testing capacity, implement increases in scale and related processing, customer service, billing, collection and systems process improvements and expand our internal quality assurance program and technology to support testing on a larger scale. We will also need additional certified laboratory scientists and other scientific and technical personnel to process these additional tests. Any increases in scale, related improvements and quality assurance may not be successfully implemented and appropriate personnel may not be available. As additional tests are commercialized, we will need to bring new equipment on line, implement new systems, technology, controls and procedures and hire personnel with different qualifications. Failure to implement necessary procedures or to hire the necessary personnel could result in a higher cost of processing or an inability to meet market demand. We cannot assure that we will be able to perform tests on a timely basis at a level consistent with demand, that our efforts to scale our commercial operations will not negatively affect the quality of our test results or that we will respond successfully to the growing complexity of our testing operations. If we encounter difficulty meeting market demand or quality standards for our tests, our reputation could be harmed and our future prospects and business could suffer, which may have a material adverse effect on our financial condition, results of operations and cash flows.

Declining general economic or business conditions may have a negative impact on our business.

Continuing concerns over United States health care reform legislation and energy costs, geopolitical issues, the availability and cost of credit and government stimulus programs in the United States and other countries have contributed to increased volatility and diminished expectations for the global economy. These factors, combined with low business and consumer confidence and high unemployment, precipitated an economic slowdown and recession. If the economic climate does not improve or continues to deteriorate, our business, including our access to patient samples and the addressable market for diagnostic tests that we may successfully develop, as well as the financial condition of our suppliers and our third-party payors, could be adversely affected, resulting in a negative impact on our business, financial condition and results of operations.

We depend on our information technology and telecommunications systems, and any failure of these systems could harm our business.

We depend on information technology and telecommunications systems for significant aspects of our operations. In addition, our third-party billing and collections provider depends upon telecommunications and data systems provided by outside vendors and information we provide on a regular basis. These information technology and telecommunications systems support a variety of functions, including test processing, sample tracking, quality control, customer service and support, billing and reimbursement, research and development activities and our general and administrative activities. Information technology and telecommunications systems are vulnerable to damage from a variety of sources, including telecommunications or network failures, malicious human acts and natural disasters. Moreover, despite network security and back-up measures, some of our systems are potentially vulnerable to physical or electronic break-ins, computer viruses and similar disruptive problems. Despite the precautionary measures we have taken to prevent unanticipated problems that could affect our information technology and telecommunications systems, failures or significant downtime of our information technology or telecommunications systems or those used by our third-party service providers could prevent us from processing tests, providing test results to pathologists, oncologists, billing payors, processing reimbursement appeals, handling patient or physician inquiries, conducting research and development activities and managing the administrative aspects of our business. Any disruption or loss of information technology or telecommunications systems on which critical aspects of our operations depend could have an adverse effect on our business. Furthermore, we depend on FedEx as our courier. Any disruption in any of our mail services or transportation logistics could result in spoiled or lost samples, which could reduce revenue. Moreover, we are required to comply with laws governing the transmission, security and privacy of health information that require significant compliance costs, and any failure to comply with these laws could result in material criminal and civil penalties and civil liabilities.

We outsource our billing and collections to a third-party provider. Our provider may fail in its duties to us and thereby reduce our cash collections and harm our business.

Billing for laboratory tests is complicated and is subject to extensive and non-uniform rules and administrative requirements. Missing or incorrect information on requisitions adds complexity to and slows the billing process, creates backlogs and increases the aging of accounts receivable and bad debt expenses. Failure to timely or correctly bill may lead to our not being reimbursed for our services or an increase in aging of our accounts receivable. In addition, failure to comply with applicable federal and state laws relating to billing, including, but not limited, to the federal False Claims Act may lead to various penalties including civil and criminal fines and penalties, recoupment efforts, and exclusion from participation in Medicare and other federal health care programs. We rely heavily on a single third party to provide us with key software and services for our billing. If that third party is unable or unwilling to provide these services to us for any reason, fails to perform billing services accurately and completely, or violates the law, we may not be able to submit claims promptly or at all and we may be subject to an investigation and potential civil and criminal penalties. Delays in invoicing can lead to delays in revenue recognition, and inaccuracies in our billing could result in lost revenue. If we fail to adapt quickly and effectively to changes affecting our costs, pricing and billing, our profitability and cash flow will be adversely affected.

Regulatory Risks Relating to Our Business

Our business may be adversely impacted by the recent sequestration signed into law in the United States.

On March 1, 2013, most agencies of the federal government automatically reduced their budgets according to an agreement made by Congress in 2012 known as "sequestration." Originally devised as an incentive to force Congressional agreement on budget issues, the sequestration order was approved on March 1, 2013 by the President of the United States. For claims submitted with dates of service or dates of discharge after April 1, 2013, these cuts will result in Medicare payments to health care providers, health care plans and drug plans being reduced by 2%.

Health care policy changes, including recently enacted legislation reforming the U.S. health care system, may have a material adverse effect on our financial condition, results of operations and cash flows.

In March 2010, U.S. President Barack Obama signed the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the "PPACA"), which makes a number of substantial changes in the way health care is financed by both governmental and private insurers. Among other things, PPACA:

- Requires each medical device manufacturer to pay a sales tax equal to 2.3% of the price for which such manufacturer sells its medical devices, beginning in 2013. This tax may apply to some or all of the current tests that we offer and other tests which are in development.

- Mandates a reduction in payments for clinical laboratory services paid under the Medicare Clinical Laboratory Fee Schedule (the "CLFS"), of 1.75% for the years 2011 through 2015 and includes a productivity adjustment that reduces the Consumer Price Index (the "CPI"), market basket update beginning in 2011. These changes in payments apply to some or all of the clinical laboratory test services we furnish to Medicare beneficiaries.

- Establishes an Independent Payment Advisory Board to reduce the per capita rate of growth in Medicare spending. The Independent Payment Advisory Board has broad discretion to propose policies, which may have a negative impact on payment rates for services, including clinical laboratory services, beginning in 2016, and for hospital services beginning in 2020. These proposals will automatically be implemented unless Congress enacts alternative proposals that achieve the same saving targets.

While the ultimate impact of PPACA is unknown, it is likely to be extensive and may result in significant changes to coverage and reimbursement of our tests. Most of the law's provisions have already gone into effect or will go into effect in 2014. Congress has also proposed a number of legislative initiatives, including possible repeal of PPACA. At this time, it remains unclear whether there will be any changes made to PPACA, whether to certain provisions or its entirety.

PPACA, among other things, imposed cuts to the Medicare reimbursement for clinical laboratories. Medicare updates laboratory payment rates for inflation based on the CPI. PPACA includes a "productivity adjustment" that will reduce the CPI update. For 2014, the productivity adjustment for the CLFS is -0.8%. In addition, PPACA includes an additional 1.75 percentage points reduction in the CPI update for clinical laboratories for the years 2011 through 2015. The annual update for 2014 in CLFS rates following the productivity adjustment and reduction of 1.75 percentage points is -0.75%.

Other legislative changes have been proposed and adopted since PPACA was enacted. On August 2, 2011, the President signed into law the Budget Control Act of 2011, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend proposals in spending reductions in Congress. The Joint Select Committee did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions to Medicare payments to providers and suppliers of 2%, starting in 2013. Subsequent annual reductions, currently scheduled for each year through 2021, are limited to 2% per fiscal year. The full impact on our business of PPACA and the new law is uncertain.

In addition, on February 22, 2012, the President signed the Middle Class Tax Relief and Job Creation Act of 2012 (the "MCTRJCA"), which, among other things, mandated an additional change in Medicare reimbursement for clinical laboratory services. This legislation required CMS to rebase payment amounts under the Medicare CLFS, reducing them by 2% in 2013. The reduced 2013 amount served as the base for payment rates in 2014 and will serve as the base for payment rates in subsequent years.

Due to changes in the CLFS rates required by PPACA and MCTRJCA and because of sequestration, payment for clinical laboratory services have gone down by 4.89% from 2012 to 2013. In addition, unless Congress acts to end sequestration or make other changes to applicable law, payments for clinical laboratory tests will continue to be subject to reductions in 2014 and beyond. MACs have the authority to apply these cuts to locally determined payments for tests, such as MyPRS®, that are reported using unlisted CPT codes. Even though we use an unlisted CPT code to bill for MyPRS® and reimbursement is determined by the local MAC, these changes could affect our reimbursement.

If any of our laboratory services are paid under the Medicare Physician Fee Schedule, under the current statutory formula, the rates for these services would be updated annually. For the past several years, the application of the statutory formula would have resulted in substantial payment reductions if Congress had failed to intervene. In the past, Congress has passed interim legislation to prevent the decreases. On November 27, 2013, CMS issued its 2014 Physician Fee Schedule Final Rule, or the 2014 Final Rule. In the 2014 Final Rule, CMS called for a reduction of approximately 20.1% in the 2014 conversion factor that is used to calculate physician reimbursement. This legislatively required reduction in physician payments was postponed until March 31, 2014, when President Obama signed into law on December 26, 2013 H.J. Res. 59, the Bipartisan Budget Act of 2013, which included the Pathway for the SGR Reform Act of 2013. This provided a short-term reprieve from the Medicare Physician Fee Schedule cut. The "Protecting Access to Medicare Act of 2014," which was signed into law on April 1, 2014, further extended this reprieve until December 31, 2014 and provided for a zero percent update through March 31, 2015. In order to pay for the cost of eliminating or delaying the required payment reduction, Congress would have to cut spending for other programs or raise revenues. In addition, there may be unrelated legislation (e.g., resulting from budget and debt ceiling negotiations) that may require spending cuts. In either case (e.g., offsetting the cost of maintaining physician payments at their current level and/or overall Medicare payment cuts due to budget negotiations), Medicare Physician Fee Schedule payments for clinical laboratory services could be reduced. We cannot predict whether such payments cuts will occur or whether other reductions in Medicare or Medicaid spending will be enacted. If any of our tests are paid under the Medicare Physician Fee Schedule and Congress fails to act to offset legislatively required reductions in Physician Fee Schedule payments, the resulting decrease in payment could adversely impact our revenues and results of operations.

In addition, many of the CPT codes that we may use to bill our tests were recently revised by the AMA, effective January 1, 2013. The adoption of analyte specific codes will allow payors to better identify tests being performed. This could lead to limited coverage or non-coverage decisions or payment denials. In the 2014 Final Rule, CMS announced that it has decided to keep the new molecular codes on the CLFS. CMS has also announced that it will price the new codes using a "gapfilling" process by which it will refer the codes to the MACs to allow them to determine an appropriate price. In addition, it has also stated that it will not separately reimburse the algorithm portion of certain of the new codes for MAAAs, because it does not believe the algorithm qualifies as a clinical laboratory test. MACs are issuing payment and coverage decisions but the payment levels and the methodology for determining payment by Medicare and commercial health plans still remain largely unresolved. Our reimbursement could be adversely affected by any final CMS action in this area. Furthermore, CMS has given itself the authority to revise payment rates for all tests paid under the CLFS. It is anticipated that CMS will use this new authority to reduce payment for many clinical laboratory services. Even though we use an unlisted CPT code to bill for MyPRS® and reimbursement is determined by the local MAC, this authority could affect our reimbursement in the future. If CMS reduces reimbursement for new test codes or does not pay for the algorithmic portion of our MAAA tests, then our revenues will be adversely affected. There can be no guarantees that Medicare and other payors will establish positive or adequate coverage policies or reimbursement rates.

The "Protecting Access to Medicare Act of 2014," which was signed into law on April 1, 2014, contains provisions that significantly affect Medicare payment for tests that are reimbursed under the CLFS. Starting in 2017, Medicare payment for each test will be based on the amount of payment being made by private payors for that test. Private payor payment amounts, adjusted for discounts and other price concessions, will be collected by laboratories, starting in 2016, and submitted to CMS so that market-based payment rates can be calculated. New tests will generally be paid using the crosswalk or gapfilling methodology described elsewhere in this Quarterly Report on Form 10-Q. However, some new tests, termed Advanced Diagnostic Laboratory Tests, will be paid based on the laboratory's actual list charge for a brief period of time until private payor payment data is available. Furthermore, in order to facilitate implementation of the new payment methodology, starting in 2016, CMS is required to assign specific billing codes to many CLFS tests existing at the time of enactment and to all new CLFS tests. The Secretary of Health and Human Services ("HHS") has discretion in determining which labs will be required to collect private payor payment information, which tests may be designated as Advanced Diagnostic Laboratory tests, and which existing laboratory tests will be assigned new billing codes; therefore, the impact of this law, if any, on Medicare payment for MyPRS® or any test we might develop and commercialize in the future is unclear.

We cannot predict whether future health care initiatives will be implemented at the federal or state level, or how any future legislation or regulation may affect us. The taxes imposed by the new federal legislation and the expansion of government's role in the U.S. health care industry as well as changes to the reimbursement amounts paid by payors for diagnostic tests may reduce our profits and have a materially adverse effect on our business, financial condition, results of operations and cash flows. We expect continuing efforts on the part of payors to reduce reimbursement, to impose more stringent cost controls, and to reduce utilization of clinical test services. Moreover, Congress has proposed on several occasions to impose a 20% coinsurance on patients for clinical laboratory tests reimbursed under the CLFS, which would require us to bill patients for these amounts.

Our commercial success could be compromised if third-party payors, including managed care organizations and Medicare, do not provide coverage and reimbursement, breach, rescind or modify their contracts or reimbursement policies or delay payments for our molecular diagnostic tests.

Pathologists and oncologists may not order our molecular diagnostic tests unless third-party payors, such as managed care organizations and government payors such as Medicare and Medicaid, pay a substantial portion of the test price. Coverage and reimbursement by a third-party payor may depend on a number of factors, including a payor's determination that tests using our technologies are:

- experimental or investigational;
- not medically necessary;
- not appropriate for the specific patient;
- not cost-effective;
- not supported by peer-reviewed publications; and/or
- not included in clinical practice guidelines.

Uncertainty surrounds third-party payor reimbursement of any test incorporating new technology, including tests developed using microarrays. Technology assessments of new medical tests and devices conducted by research centers and other entities may be disseminated to interested parties for informational purposes. Third-party payors and health care providers may use such technology assessments as grounds to deny coverage for a test or procedure. To our knowledge, no technology assessments have been performed on our tests to date. However, if any technology assessments on our tests are performed, they could conclude that our tests are not clinically useful and this could result in payor non-coverage decisions, which would adversely affect our business.

Because each payor generally determines for its own enrollees or insured patients whether to cover or otherwise establish a policy to reimburse our diagnostic tests, seeking payor approvals is a time-consuming and costly process. We cannot be certain that coverage for our tests will be provided in the future by additional third-party payors or that existing contracts, agreements or policy decisions or reimbursement levels will remain in place or be fulfilled under existing terms and provisions. If we cannot obtain coverage and reimbursement from private and governmental payors such as Medicare and Medicaid for our current tests, or new tests or test enhancements that we may develop in the future, our ability to generate revenues could be limited, which may have a material adverse effect on our financial condition, results of operations and cash flow. Further, we have experienced in the past, and will likely experience in the future, delays and temporary interruptions in the receipt of payments from third-party payors due to missing documentation and other issues, which could cause delay in collecting our revenue.

We depend on Medicare and a limited number of private payors for a significant portion of our revenues and if these or other payors stop providing reimbursement or decrease the amount of reimbursement for our tests, our revenues could decline.

For the six months ended June 30, 2014, we derived approximately 18% of our total revenue from private insurance, including managed care organizations and other health care insurance providers, 16% from government payor programs, most of which was derived from Medicare, and 66% from direct-bill customers, including hospitals and other laboratories. In addition, for the year ended December 31, 2013, we derived approximately 13% of our total revenue from private insurance, including managed care organizations and other health care insurance providers, 14% from government payor programs, most of which was derived from Medicare, and 73% from direct-bill customers, including hospitals and other laboratories. Medicare and other third-party payors may withdraw their coverage policies or cancel their contracts with us at any time, review and adjust the rate of reimbursement or stop paying for our tests altogether, which would reduce our total revenues.

We face efforts by payors to control the cost, utilization and delivery of health care services including clinical laboratory tests. In the past, measures have been undertaken to reduce payment rates for and decrease utilization of the clinical laboratory industry generally. Because of the cost-trimming trends, third-party payors that currently cover and provide reimbursement for our tests may suspend, revoke or discontinue coverage at any time, or may reduce the reimbursement rates payable to us. Any such action could have a negative impact on our revenues, which may have a material adverse effect on our financial condition, results of operations and cash flows. From time to time, Congress has, and may in the future, legislated reductions in or frozen updates to the Medicare CLFS. In addition, Congress may adopt policies limiting or excluding coverage for tests that we perform. Some of our tests may be reimbursed by Medicare under the Physician Fee Schedule, which is subject to adjustment on an annual basis. Medicaid reimbursement varies by state and is subject to administrative and billing requirements and budget pressures. PPACA includes several provisions that are intended to control utilization and payment, including provisions that reduce payments for services paid under the CLFS.

The health care industry has experienced a trend of consolidation among health insurance plans.

We are currently considered a "non-contracting provider" by a number of private third-party payors because we have not entered into a specific contract to provide our specialized diagnostic services to their insured patients at specified rates of reimbursement. If we were to become a contracting provider in the future, the amount of overall reimbursement we would receive is likely to decrease because we would be reimbursed less at a contracted rate than we would be at a non-contracted rate, which could have a negative impact on our revenues. Further, we may be unable to collect payments from patients beyond that which is paid by their insurance and will continue to experience lost revenue as a result.

Because of certain Medicare billing rules, we may not receive reimbursement for all tests provided to Medicare patients.

Under current Medicare billing rules, claims for our tests performed on Medicare beneficiaries who were hospital patients when the tumor tissue samples were obtained and whose tests were ordered less than 14 days from discharge must be included in the payment that the hospital receives for the patient services provided. Accordingly, we must bill individual hospitals for tests performed on Medicare beneficiaries during these timeframes in order to receive payment for our tests. Because we generally do not have a written agreement in place with these hospitals that purchase these tests, we may not be paid for our tests or may have to pursue payment from the hospital on a case-by-case basis. This could be especially problematic for us if the hospital does not receive separate payment from Medicare for our test.

Because a portion of our revenues is from third-party payors with whom we are not currently contracted, we may be required to make positive or negative adjustments to accounting estimates with respect to contractual allowances, which may adversely affect our results of operations, our credibility with financial analysts and investors, and our stock price.

We record revenues net of contractual allowances. We estimate contractual allowances for non-contracted insurance companies based on our historical collection experience for each type of payor. In the event that the actual amount of payment received differs from the previously recorded estimate, an adjustment to revenue is made in the current period at the time of final collection and settlement. Our estimates of net revenue for non-contracted insurance companies are subject to change based on the contractual status and payment policies of the third-party payors with whom we deal. We regularly refine our estimates in order to make our estimated revenue as accurate as possible based on our most recent collection experience with each third-party payor. There can be no assurances that we will not be required to make similar adjustments to estimates with respect to contractual allowances in the future, which could adversely affect our results of operations, our credibility with financial analysts and investors, and our stock price.

Complying with numerous regulations pertaining to our business is an expensive and time-consuming process, and any failure to comply could result in substantial penalties.

We are subject to CLIA, a federal law regulating clinical laboratories that perform testing on specimens derived from humans for the purpose of providing information for the diagnosis, prevention or treatment of disease. Our clinical laboratory must be certified under CLIA in order for us to perform testing on human specimens. In addition, our proprietary tests must also be categorized as part of our CLIA certification so that we can offer them in our laboratory. CLIA is intended to ensure the quality and reliability of clinical laboratories in the United States by mandating specific standards in the areas of personnel qualifications, administration, and participation in proficiency testing, patient test management, quality control, quality assurance and inspections. We have a current certificate under CLIA to perform high complexity testing. To renew this certificate, we are subject to survey and inspection every two years. Moreover, CLIA inspectors may make periodic inspections of our clinical reference laboratory outside of the renewal process.

The law also requires us to maintain a state laboratory license to conduct testing. Our laboratory is located in Arkansas and must have an Arkansas state license. Arkansas laws establish standards for day-to-day operation of our clinical reference laboratory, including the training and skills required of personnel and quality control. In addition, several other states require that we hold licenses to test specimens from patients in those states. Other states may have similar requirements or may adopt similar requirements in the future. Finally, we may be subject to regulation in foreign jurisdictions as we seek to expand international distribution of our tests.

If we were to lose our CLIA certificate or Arkansas laboratory license, whether as a result of a revocation, suspension or limitation, we would no longer be able to offer our tests, which would limit our revenues and harm our business. If we were to lose our license in other states where we are required to hold licenses, we would not be able to test specimens from those states.

If the FDA were to begin requiring approval or clearance of our tests, we could incur substantial costs and time delays associated with meeting requirements for pre-market clearance or approval or we could experience decreased demand for, or reimbursement for our tests.

Although the FDA maintains that it has authority to regulate the development and use of LDTs, such as ours, as medical devices, it has not exercised its authority with respect to most LDTs as a matter of enforcement discretion. The FDA does not generally extend its enforcement discretion to reagents or software provided by third parties used to perform LDTs, and therefore these products must typically comply with the FDA medical device regulations, which are wide-ranging and govern, among other things: product design and development, product testing, product labeling, product storage, pre-market clearance or approval, advertising and promotion and product sales and distribution.

We believe that our MyPRS® test, as utilized in our laboratory testing, is an LDT. As a result, we believe that pursuant to the FDA's current policies and guidance that the FDA does not currently require that we obtain regulatory clearances or approvals for our LDT. The container we provide for collection and transport of tumor samples from a pathology laboratory or hospital to our clinical reference laboratory may be a medical device subject to the FDA regulation but is currently exempt from pre-market review by the FDA. While we believe that we are currently in material compliance with applicable laws and regulations, we cannot assure you that the FDA or other regulatory agencies would agree with our determination, and a determination that we have violated these laws, or a public announcement that we are being investigated for possible violations of these laws, could adversely affect our business, prospects, and the results of operations or financial condition.

Moreover, FDA guidance and policy pertaining to diagnostic testing is continuing to evolve and is subject to ongoing review and revision. A significant change in any of the laws, regulations or policies may require us to change our business model in order to maintain regulatory compliance. At various times since 2006, the FDA has issued guidance documents or announced draft guidance regarding initiatives that may require varying levels of FDA oversight of our tests. For example, in June 2010, the FDA announced a public meeting to discuss the agency's oversight of LDTs prompted by the increased complexity of LDTs and their increasingly important role in clinical decision-making and disease management, particularly in the context of personalized medicine. The FDA indicated that it was considering a risk-based application of oversight to LDTs and that, following public input and discussion, it might issue separate draft guidance on the regulation of LDTs, which ultimately could require that we seek and obtain either pre-market clearance or approval of LDTs, depending upon the risk-based approach the FDA adopts. The public meeting was held in July 2010 and further public comments were submitted to the FDA through September 2010. The FDA has stated it is continuing to develop draft guidance in this area.

On July 31, 2014, the FDA notified Congress (as required by Section 1143 of the Food and Drug Administration Safety and Innovation Act, signed by the U.S. President on July 9, 2012) of its intent to publish a proposed risk-based framework for LDTs, which are designed, manufactured, and used within a single laboratory. The notice to Congress provides the anticipated details of the draft guidance through which the FDA would propose to establish an LDT oversight framework, including premarket review for higher-risk LDTs, such as those that have the same intended use as FDA-approved or cleared companion diagnostics currently on the market. Such guidance, if and when finalized, may significantly impact the sales of our products and how customers use our products, and may require us to change our business model in order to maintain compliance with these laws. We cannot predict the ultimate timing or form of any FDA guidance or regulation on LTDs.

Additionally, on November 25, 2013, the FDA issued Final Guidance "Distribution of In Vitro Diagnostic Products Labeled for Research Use Only." The guidance emphasizes that the FDA will review the totality of the circumstances when it comes to evaluating whether equipment and testing components are properly labeled as research use only. The final guidance states that merely including a labeling statement that the product is for research purposes only will not necessarily render the device exempt from the FDA's clearance, approval, and other regulatory requirements if the circumstances surrounding the distribution of the product indicate that the manufacturer knows its product is, or intends for its product to be, offered for clinical diagnostic uses. These circumstances may include written or verbal marketing claims or links to articles regarding a product's performance in clinical applications and a manufacturer's provision of technical support for clinical applications. If the FDA imposes significant changes to the regulation of LDTs, it could reduce our revenue or increase our costs and adversely affect our business, prospects, results of operations or financial condition.

We may be required to proactively achieve compliance with certain FDA regulations and to conform our diagnostic service operations to the FDA's good manufacturing practice regulations for medical devices, known as the Quality System Regulation ("QSR"). In addition, we may voluntarily seek to conform our diagnostic service operations to QSR requirements. For clinical diagnostic products that are regulated as medical devices, the FDA enforces the QSR through pre-approved inspections and periodic unannounced inspections of registered manufacturing facilities. If we are subject to QSR requirements, the failure to comply with those requirements or take satisfactory corrective action in response to an adverse QSR inspection could result in enforcement actions, including a public warning letter or an untitled letter, a delay in approving or clearing, or a refusal to approve or clear, our products, a shutdown of diagnostic service operations, a product recall, civil or criminal penalties or other sanctions, which could in turn cause our sales and business to suffer.

We cannot provide any assurance that FDA regulation, including pre-market review, will not be required in the future for our tests, whether through additional guidance issued by the FDA, new enforcement policies adopted by the FDA or new legislation enacted by Congress. We believe it is possible that legislation will be enacted into law or guidance could be issued by the FDA which may result in increased regulatory burdens for us to continue to offer our tests or to develop and introduce new tests. Given the attention Congress continues to give to these issues, legislation affecting this area may be enacted into law and may result in increased regulatory burdens on us as we continue to offer our tests and to develop and introduce new tests.

In addition, the Secretary of the U.S. Department of HHS, requested that its Advisory Committee on Genetics, Health and Society make recommendations about the oversight of genetic testing. A final report was published in April 2008. If the report's recommendations for increased oversight of genetic testing were to result in further regulatory burdens, they could negatively affect our business and delay the commercialization of tests in development.

Any requirement of pre-market review could negatively affect our business until such review is completed and clearance to market or approval is obtained. The FDA could require that we stop selling our tests pending pre-market clearance or approval. If the FDA allows our tests to remain on the market but there is uncertainty about the validity of our tests, if they are labeled investigational by the FDA or if the labeling claims the FDA allows us to make are very limited, orders or reimbursement may decline. The regulatory approval process may involve, among other things, successfully completing additional clinical trials and making a 510(k) submission, or filing a PMA application with the FDA. If the FDA requires pre-market review, our tests may not be cleared or approved on a timely basis, if at all. We may also decide voluntarily to pursue FDA pre-market review of our tests if we determine that doing so would be appropriate.

Additionally, should future regulatory actions affect any of the reagents we obtain from vendors and use in conducting our tests, our business could be adversely affected in the form of increased costs of testing or delays, limits or prohibitions on the purchase of reagents necessary to perform our testing.

If we were required to conduct additional clinical trials prior to continuing to offer our proprietary MyPRS® test or any other tests that we may develop as LDTs, those trials could lead to delays or failure to obtain necessary regulatory approval, which could cause significant delays in commercializing any future products and harm our ability to achieve sustained profitability.

If the FDA decides to require that we obtain clearance or approvals to commercialize our proprietary genetic-based tests, we may be required to conduct additional pre-market clinical testing prior to submitting a regulatory notification or application for commercial sales. Clinical trials must be conducted in compliance with FDA regulations or the FDA may take enforcement action or reject the data. The data collected from these clinical trials may ultimately be used to support market clearance or approval for our tests. Even if our clinical trials are completed as planned, we cannot be certain that their results will support our test claims or that the FDA or foreign authorities will agree with our conclusions regarding our test results. Success in early clinical trials does not ensure that later clinical trials will be successful, and we cannot be sure that the later trials will replicate the results of prior trials and studies. If we are required to conduct pre-market clinical trials, whether using prospectively acquired samples or archival samples, delays in the commencement or completion of clinical testing could significantly increase our test development costs and delay commercialization. Many of the factors that may cause or lead to a delay in the commencement or completion of clinical trials may also ultimately lead to delay or denial of regulatory clearance or approval. The commencement of clinical trials may be delayed due to insufficient patient enrollment, which is a function of many factors, including the size of the patient population, the nature of the protocol, the proximity of patients to clinical sites and the eligibility criteria for the clinical trial. Moreover, the clinical trial process may fail to demonstrate that our tests are effective for the proposed indicated uses, which could cause us to abandon a test candidate and may delay development of other tests.

We may find it necessary to engage contract research organizations to perform data collection and analysis and other aspects of our clinical trials, which might increase the cost and complexity of our trials. We may also depend on clinical investigators, medical institutions and contract research organizations to perform the trials properly. If these parties do not successfully carry out their contractual duties or obligations or meet expected deadlines, or if the quality, completeness or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or for other reasons, our clinical trials may have to be extended, delayed or terminated. Many of these factors would be beyond our control. We may not be able to enter into replacement arrangements without undue delays or considerable expenditures. If there are delays in testing or approvals as a result of the failure to perform by third parties, our research and development costs would increase, and we may not be able to obtain regulatory clearance or approval for our tests. In addition, we may not be able to establish or maintain relationships with these parties on favorable terms, if at all. Each of these outcomes would harm our ability to market our tests or to achieve sustained profitability.

We are subject to federal and state health care fraud and abuse laws and regulations and could face substantial penalties if we are unable to fully comply with such laws.

We are subject to health care fraud and abuse regulation and enforcement by both the federal government and the states in which we conduct our business. These health care laws and regulations include, for example:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons or entities from soliciting, receiving, offering or providing remuneration, directly or indirectly, in return for, to induce or to arrange for the referral of an individual for, or the purchase, order or recommendation of, any items or services for which payment may be made under a federal health care program such as the Medicare and Medicaid programs;

- the federal physician self-referral prohibition, commonly known as the Stark Law, which prohibits physicians from referring Medicare or Medicaid patients to providers of "designated health services" with whom the physician or a member of the physician's immediate family has an ownership interest or compensation arrangement, unless a statutory or regulatory exception applies;

- the federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), which establishes federal crimes for knowingly and willfully executing a scheme to defraud any health care benefit program or making false statements in connection with the delivery of or payment for health care benefits, items or services;

- the federal False Claims Act, which prohibits, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other third-party payors that are false or fraudulent;

- the federal Physician Payment Sunshine Act requirements under PPACA, which require manufacturers of drugs, devices, biologics and medical supplies to report to HHS information related to payments and other transfers of value made to or at the request of covered recipients, such as physicians and teaching hospitals, and physician ownership and investment interests in such manufacturers. Payments made to physicians and research institutions for clinical trials are included within the ambit of this law; and

- state law equivalents of each of the above federal laws, such as anti-kickback, physician self-referral and false claims laws, which may apply to items or services reimbursed by any third-party payor, including commercial insurers.

We seek to comply with these laws. However, it is possible that we could be the subject of a government investigation regarding our compliance with these laws and that the government could take the position that we are not in compliance with one or more of them. In such case, we may be judged to be in violation of those laws and subject to civil and criminal penalties. In addition, many of these laws and regulations are vague or indefinite and have not been interpreted by the courts or regulatory agencies. These laws and regulations may be interpreted or applied by a prosecutorial, regulatory or judicial authority in a manner that could subject us to liability and/or require us to make changes in our operations.

We believe that federal and state governments continue to strengthen their enforcement efforts against health care fraud. In addition, PPACA increases the funding, power, penalties and remedies to pursue suspected cases of fraud and abuse and provides the government with expanded opportunities to pursue actions under the federal Anti-Kickback Statute, the False Claims Act, and the Stark Law. For example, PPACA narrowed the public disclosure bar under the False Claims Act, allowing increased opportunities for
whistleblower litigation. In addition, the legislation modified the intent standard under the federal Anti-Kickback Statute, making it easier for prosecutors to prove that alleged violators had met the requisite knowledge requirement. PPACA also requires providers and suppliers to report any Medicare or Medicaid overpayment and return the overpayment on the later of 60 days of identification of the overpayment or the date the cost report is due (if applicable), or all claims associated with the overpayment will become false claims. PPACA also provides that any claim submitted from an arrangement that violates the Anti-Kickback Statute is a false claim. Any action brought against us for violation of these laws or regulations, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. If our operations are found to be in violation of any of these laws and regulations, we may be subject to any applicable penalty associated with the violation, including civil and criminal penalties, damages and fines, and/or exclusion from participation in Medicare, Medicaid or other state or federal health care programs, we could be required to refund payments received by us, and we could be required to curtail or cease our operations. Any of the foregoing consequences could seriously harm our business, our financial condition and results of operations.

We are required to comply with laws governing the transmission, security and privacy of health information that require significant compliance costs, and any failure to comply with these laws could result in material criminal and civil penalties.

Under the administrative simplification provisions of HIPAA, HHS has issued regulations which establish uniform standards governing the conduct of certain electronic health care transactions and protecting the privacy and security of Protected Health Information ("PHI"), used or disclosed by health care providers and other covered entities. Three principal regulations with which we are currently required to comply have been issued in final form under HIPAA: privacy regulations, security regulations and standards for electronic transactions.

The privacy regulations cover the use and disclosure of PHI by health care providers. It also sets forth certain rights that an individual has with respect to his or her PHI maintained by a health care provider, including the right to access or amend certain records containing PHI or to request restrictions on the use or disclosure of PHI. We have also implemented policies, procedures and standards to comply appropriately with the final HIPAA security regulations, which establish requirements for safeguarding the confidentiality, integrity and availability of PHI, which is electronically transmitted or electronically stored. The HIPAA privacy and security regulations establish a uniform federal "floor" and do not supersede state laws that are more stringent or provide individuals with greater rights with respect to the privacy or security of, and access to, their records containing PHI. As a result, we are required to comply with both HIPAA privacy regulations and varying state privacy and security laws. Almost all U.S. states now require notification to affected individuals and state authorities, as well as the media in certain cases, in the event of a breach of the security of personal information (including PHI in a few states), often with significant financial penalties for noncompliance.

The Health Information Technology for Economic and Clinical Health Act (the "HITECH Act"), enacted pursuant to the American Recovery and Reinvestment Act of 2009 (the "ARRA"), made sweeping changes to the health information privacy and security regulations of HIPAA by expanding the scope and application of the statute. These changes include, among other things, (i) establishing an affirmative obligation to provide patient data breach notification in the event of the unauthorized acquisition, access, use or disclosure of unsecured PHI; (ii) elaborating upon the standard for "minimum necessary" uses and disclosures of PHI by a covered entity (iii) restricting certain uses of PHI for marketing purposes (by expanding the definition of marketing activities requiring authorization); (iv) prohibiting certain sales of PHI; (v) establishing an affirmative obligation to provide an accounting of disclosures made for payment, treatment and health care operations (up to 3 years made through an electronic health record); (vi) requiring covered entities to agree to individuals' requests to restrict disclosure of PHI in certain circumstances; (vii) applying the security regulations and certain provisions of the privacy regulations to business associates; and (viii) modifying an individuals' right to access PHI in an electronic format. HHS issued modifications to the HIPAA Regulations, effective March 26, 2013, implementing some of these changes including the obligation to provide patient data breach notifications, which subject the Company to additional administrative requirements in the U.S. With regard to the accounting of disclosures, the HITECH Act provides for removing the exception in the existing HIPAA privacy regulations' accounting of disclosures of PHI requirement for disclosures of PHI for payment, treatment, and health care operations purposes made through an electronic health record (within the past 3 years). HHS issued proposed regulations to implement this provision of the HITECH Act in May 2011, but those regulations have not been finalized.

The HITECH Act also implemented measures to strengthen enforcement of HIPAA and increased applicable penalties for HIPAA violations. Penalties are now tiered and range from $100 to $50,000 per violation with an annual cap for the same violations of $25,000 to $1,500,000. The Office for Civil Rights of the HHS (the "OCR"), has increased enforcement activities and has recently levied large penalties for violations. In addition, as mandated by the HITECH Act, OCR has begun an audit program to assess compliance by covered entities and their business associates with the HIPAA privacy and security rules and breach notification standards.

We seek to comply with HIPAA privacy regulations and state privacy laws. In addition, we are in the process of taking necessary steps to comply with HIPAA's standards for electronic transactions, which establish standards for common health care transactions. Given the complexity of HIPAA, the HITECH Act and state privacy restrictions, the possibility that the regulations may change, and the fact that the regulations are subject to changing and potentially conflicting interpretation, our ability to comply with HIPAA, the HITECH Act and state privacy requirements is uncertain and the costs of compliance are significant. To the extent that we or our third-party billing company submit electronic health care claims and payment transactions that do not comply with the electronic data transmission standards established under HIPAA and the HITECH Act, payments to us may be delayed or denied. Additionally, the costs of complying with any changes to HIPAA, the HITECH Act and state privacy restrictions may have a negative impact on our operations. We could be subject to criminal penalties and civil sanctions for failing to comply with HIPAA, the HITECH Act and state privacy restrictions, which could result in the incurrence of significant monetary penalties.

Changes in, or interpretations of, tax rules and regulations may adversely affect our effective tax rates.

We are subject to income and other taxes in the United States. Significant judgment is required in evaluating our provision for income taxes. During the ordinary course of business, there are many transactions for which the ultimate tax determination is uncertain. For example, there could be changes in the valuation of our deferred tax assets and liabilities or changes in the relevant tax, accounting, and other laws, regulations, principles and interpretations. Although we believe our tax estimates are reasonable, the final determination of tax audits and any related litigation could be materially different from our historical income tax provisions and accruals. The results of an audit or litigation, or the effects of a change in tax policy in the United States, could have a material effect on our operating results in the period or periods for which that determination is made.

Intellectual Property Risks Related to Our Business

If we are unable to maintain intellectual property protection, our competitive position could be harmed.

Our ability to protect our proprietary discoveries and technologies affects our ability to compete and to achieve sustained profitability. Currently, we rely on a combination of issued U.S. patents, U.S. and foreign patent applications, copyrights, trademarks and trademark applications, confidentiality or non-disclosure agreements, material transfer agreements, licenses, work-for-hire agreements and invention assignment agreements to protect our intellectual property rights. We also maintain certain company know-how, trade secrets and technological innovations designed to provide us with a competitive advantage in the market place as trade secrets.

Currently, we are the worldwide exclusive licensee, in our licensed field, of 11 issued U.S. patents, 1 Japanese patent and 22 pending patent applications, which include both U.S. (1 of which has recently been allowed) and foreign patent applications, relating to various aspects of our technology. Of the 22 pending patent applications, four are owned outright by Signal Genetics, Inc. Our exclusive field of use covers, inter alia, therapeutic, diagnostic, prognostic, and personalized medicine applications worldwide, excluding applications using fluorescence in situ hybridization (FISH), and some claims directly covering DKK1 inhibitors and their uses.

While we intend to pursue additional patent applications, it is possible that our pending patent applications and any future applications may not result in issued patents. Even if patents are issued, third parties may independently develop similar or competing technology that avoids the claims of our patents or may challenge the validity of our patents. Further, we cannot be certain that the steps we have taken will prevent the misappropriation of our trade secrets and other confidential information as well as the misuse of our patents and other intellectual property, particularly in foreign countries where we have not filed for patent protection.

From time to time the U.S. Supreme Court, other federal courts, the U.S. Congress or the U.S. Patent and Trademark Office (the “USPTO”), as well as counterpart agencies and bodies in corresponding foreign jurisdictions, may change the standards of patentability and any such changes could have a negative impact on our business.

For instance, on October 30, 2008, the Court of Appeals for the Federal Circuit issued a decision that methods or processes cannot be patented unless they are tied to a machine or involve a physical transformation. The U.S. Supreme Court later reversed that decision in Bilski v. Kappos, or Bilski, finding that the “machine-or-transformation” test is not the only test for determining patent eligibility. The Court, however, declined to specify how and when processes are patentable. On March 20, 2012, in Mayo v. Prometheus, or Mayo, the U.S. Supreme Court reversed the Federal Circuit’s application of Bilski and invalidated a patent focused on a diagnostic process because the patent claim embodied a law of nature. On July 30, 2012, the USPTO released a memorandum entitled “2012 Interim Procedure for Subject Matter Eligibility Analysis of Process Claims Involving Laws of Nature”, with guidelines for determining patentability of diagnostic or other processes in line with the Mayo decision. On June 13, 2013, in Association for Molecular Pathology v. Myriad Genetics, or Myriad, the Supreme Court held that a naturally occurring DNA segment is a product of nature and not patent eligible merely because it has been isolated, but cDNA is patent eligible because it is not naturally occurring. The Supreme Court’s decision reversed in part and affirmed in part the earlier decision of the Federal Circuit that both isolated genes and cDNA were patent eligible, however, the Supreme Court specifically did not address the patentability of any method claims involving the use of such isolated genes. On March 4, 2014, the USPTO released a memorandum entitled “2014 Procedure For Subject Matter Eligibility Analysis Of Claims Reciting Or Involving Laws Of Nature/Natural Principles, Natural Phenomena, And/Or Natural Products”. This memorandum provides guidelines for the USPTO’s new examination procedure for subject matter eligibility under 35 U.S.C. §101 for claims embracing natural products or natural principles. Although the guidelines do not have the force of law, patent examiners have been instructed to follow them.

Some aspects of our technology involve products and/or processes that may be subject to this evolving standard and we cannot guarantee that any of our pending claims will be patentable as a result of such evolving standards or that issued patents will be held valid, if challenged under these changing standards.

In addition, on February 5, 2010, the Secretary’s Advisory Committee on Genetics, Health and Society voted to approve a report entitled “Gene Patents and Licensing Practices and Their Impact on Patient Access to Genetic Tests.” That report defines “patent claims on genes” broadly to include claims to isolated nucleic acid molecules as well as methods of detecting particular sequences or mutations. The report also contains six recommendations, including the creation of an exemption from liability for infringement of patent claims on genes for anyone making, using, ordering, offering for sale or selling a test developed under the patent for patient care purposes, or for anyone using the patent-protected genes in the pursuit of research. The report also recommended that the Secretary should explore, identify and implement mechanisms that will encourage more voluntary adherence to current guidelines that promote nonexclusive in-licensing of diagnostic genetic and genomic technologies. It is unclear whether HHS will act upon these recommendations, or if the recommendations would result in a change in law or process that could negatively impact our patent portfolio or future research and development efforts.

Our rights to use technologies licensed from third parties are not fully within our control, and we may not be able to sell our products if we lose our existing rights or cannot obtain new rights on reasonable terms.

Our ability to market certain of our tests and services, domestically and/or internationally, is in part derived from licenses to intellectual property which is owned by third parties. As such, we may not be able to continue selling our tests and services if we lose our existing licensed rights or sell new tests and services if we cannot obtain such licensed rights on reasonable terms. In particular, we in-license a portfolio of issued U.S. patents and pending U.S. and foreign applications as the worldwide exclusive licensee in our licensed field from UAMS.

We may also need to license other technologies to commercialize future diagnostic tests that we may offer. As may be expected, our business may suffer if, for example, (i) these licenses terminate; (ii) if the licensors fail to abide by the terms of the license, properly maintain the licensed intellectual property or fail to prevent infringement of such intellectual property by third parties; (iii) if the licensed patents or other intellectual property rights are found to be invalid or (iv) if we are unable to enter into necessary licenses on reasonable terms or at all. In return for the use of a third party's technology, we may agree to pay the licensor royalties based on sales of our products as well as other fees. Such royalties and fees are a component of cost of product revenues and will impact the margins on our tests.

We may face intellectual property infringement claims that could be time-consuming and costly to defend, and could result in our loss of significant rights and the assessment of treble damages.

From time to time we may face intellectual property infringement, misappropriation, or invalidity/non-infringement claims from third parties. Some of these claims may lead to litigation. The outcome of any such litigation can never be guaranteed, and an adverse outcome could affect us negatively. For example, were a third party to succeed on an infringement claim against us, we may be required to pay substantial damages (including up to treble damages if such infringement were found to be willful). In addition, we could face an injunction, barring us from conducting the allegedly infringing activity. The outcome of the litigation could require us to enter into a license agreement which may not be under acceptable, commercially reasonable, or practical terms or we may be precluded from obtaining a license at all.

It is also possible that an adverse finding of infringement against us may require us to dedicate substantial resources and time in developing non-infringing alternatives, which may or may not be possible. In the case of diagnostic tests, we would also need to include non-infringing technologies which would require us to re-validate our tests. Any such re-validation, in addition to being costly and time consuming, may be unsuccessful.

Finally, we may initiate claims to assert or defend our own intellectual property against third parties. If one or more of our patents were held to be invalid or not infringed, we might not be able to exclude others from offering similar or identical tests to ours. Any intellectual property litigation, irrespective of whether we are the plaintiff or the defendant, and regardless of the outcome, is expensive and time-consuming, and could divert our management's attention from our business and negatively affect our operating results or financial condition.

We may be subject to claims by third parties asserting that our employees or we have misappropriated their intellectual property, or claiming ownership of what we regard as our own intellectual property.

Although we try to ensure that we, our employees, and independent contractors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we, our employees, or independent contractors have used or disclosed intellectual property in violation of others' rights. These claims may cover a range of matters, such as challenges to our trademarks, as well as claims that our employees or independent contractors are using trade secrets or other proprietary information of any such employee's former employer or independent contractors.

In addition, while it is our policy to require our employees and independent contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact develops intellectual property that we regard as our own. Our and their assignment agreements may not be self-executing or may be breached, and we may be forced to bring claims against third parties, or defend claims they may bring against us, to determine the ownership of what we regard as our intellectual property.

If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to management.

We or our suppliers and/or manufacturers may be subject to litigation relating to, among other things, payor and customer disputes, regulatory actions, professional liability, intellectual property, employee-related matters, product liability and other potential claims, which could adversely affect our business.

We or our suppliers and/or manufacturers may become subject in the ordinary course of business to material litigation related to things, payor or customer disputes, professional liability, regulatory actions, intellectual property, employee-related matters, product liability and other potential claims, as well as investigations by governmental agencies and governmental payors relating to the specialized diagnostic services we provide. Responding to these types of claims, regardless of their merit, could result in significant expense and divert the time, attention and resources of our management. Legal actions could result in substantial monetary damages as well as significant harm to our reputation with our oncologist customers and with payors, which could adversely affect our business, financial condition and results of operations. Our laboratory directors and other laboratory professionals may be sued, or may be added as an additional party, under physician liability or other liability law for acts or omissions by our lab directors, laboratory personnel, and other employees and consultants, including but not limited to being sued for misdiagnoses or liabilities arising from the professional interpretations of test results. We may periodically become involved as defendants in medical malpractice and other lawsuits, and are subject to the attendant risk of substantial damage awards, in particular in connection with our MyPRS® test. Our laboratory directors are insured for medical malpractice risks on a claims-made basis under traditional professional liability insurance policies. We also maintain general liability insurance that covers certain claims to which we may be subject. Our general insurance does not cover all potential liabilities that may arise, including governmental fines and penalties that we may be required to pay, liabilities we may incur under indemnification agreements and certain other uninsurable losses that we may suffer. It is possible that future claims will not be covered by or will exceed the limits of our insurance coverage or that our insurers will refuse to defend us against claims. The suppliers and manufacturers of the diagnostic tests we perform, which are critical to the performance of our specialized diagnostic services, may be exposed to, or threatened with, future litigation by third parties having patent or other intellectual property rights alleging that their diagnostic tests infringe the intellectual property rights of these third parties. In such event, we could no longer have access to, or we may be prohibited from marketing or performing, such diagnostic tests unless we obtained a license from such third party. A license may not be available to us on acceptable terms, if at all. If we are unable to license diagnostic tests that are important to our specialized diagnostic services, our business, financial condition and results of operations may be adversely affected.

Risks Related to our Common Stock

We are a "controlled company," and qualify for exemptions from certain corporate governance requirements. Despite the availability of these exemptions, we have agreed with the underwriters of our IPO that we will not rely on these exemptions for a period of two years following the offering. However, to the extent we still qualify, we may in the future elect to rely on these exemptions, and to the extent we do, our stockholders will not have the same protections afforded to stockholders of companies that are subject to such requirements.

Because Bennett S. LeBow, our Chairman, through his control of LeBow Alpha LLP ("LeBow Alpha"), controls more than 50% of the outstanding voting power of our common stock, we are deemed a "controlled company" within the meaning of NASDAQ corporate governance standards. Under the rules of NASDAQ, a "controlled company" may elect not to comply with certain stock exchange corporate governance requirements, including:

- the requirement that a majority of the board of directors consists of independent directors;
- the requirement that director nominees be selected, or recommended for the board of director's selection, either by a majority of the board's independent directors or a nominations committee comprised solely of independent directors; and
- the requirement to have a compensation committee comprised solely of independent directors

Despite the availability of these exemptions, we have agreed with the underwriters from our IPO that we will not rely on these exemptions for a period of two years following the offering. However, to the extent we still qualify, we may in the future elect to rely on these exemptions, and to the extent we do, our stockholders will not have the same protections afforded to stockholders of companies that are subject to such requirements.

Our majority stockholder has the ability to control significant corporate activities and our majority stockholder's interests may not coincide with yours.

For so long as LeBow Alpha retains its ability to control over 50% of the voting power of our outstanding common stock, Mr. LeBow will retain the ability to control the outcome of matters submitted to a vote of stockholders and, through our board of directors, the ability to control decision-making with respect to our business direction and policies. Matters over which Mr. LeBow will, directly or indirectly, exercise control include:

- the election of our board of directors and the appointment and removal of our officers;
- mergers and other business combination transactions, including proposed transactions that would result in our stockholders receiving a premium price for their shares;
- other acquisitions or dispositions of businesses or assets;
- incurrence of indebtedness and the issuance of equity securities;
- repurchase of stock and payment of dividends; and
- the issuance of shares to management under our equity incentive plans.

Provisions in our corporate charter documents and under Delaware law could make an acquisition of our company, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our corporate charter and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control of our company that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions:

- the authorized number of directors can be changed only by resolution of our board of directors;
- our bylaws may be amended or repealed by our board of directors or our stockholders;
- stockholders may not call special meetings of the stockholders or fill vacancies on the board of directors;
- our board of directors is authorized to issue, without stockholder approval, preferred stock, the rights of which will be determined at the discretion of the board of directors and that, if issued, could operate as a "poison pill" to dilute the stock ownership of a potential hostile acquirer to prevent an acquisition that our board of directors does not approve;
- our stockholders do not have cumulative voting rights, and therefore our stockholders holding a majority of the shares of common stock outstanding will be able to elect all of our directors; and
- our stockholders must comply with advance notice provisions to bring business before or nominate directors for election at a stockholder meeting.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

Our failure to meet the continued listing requirements of The NASDAQ Capital Market could result in a delisting of our common stock.

If we fail to satisfy the continued listing requirements of The NASDAQ Capital Market, such as the corporate governance requirements or the minimum closing bid price requirement, NASDAQ may take steps to delist our common stock. Such a delisting would likely have a negative effect on the price of our common stock and would impair your ability to sell or purchase our common stock when you wish to do so. In the event of a delisting, we would take actions to restore our compliance with NASDAQ's listing requirements, but we can provide no assurance that any such action taken by us would allow our common stock to become listed again, stabilize the market price or improve the liquidity of our common stock, prevent our common stock from dropping below the NASDAQ minimum bid price requirement or prevent future non-compliance with NASDAQ's listing requirements.

If our shares become subject to the penny stock rules, this may make it more difficult to sell our shares.

The SEC has adopted rules that regulate broker-dealer practices in connection with transactions in penny stocks. Penny stocks are generally equity securities with a price of less than $5.00 (other than securities registered on certain national securities exchanges or authorized for quotation on certain automated quotation systems, provided that current price and volume information with respect to transactions in such securities is provided by the exchange or system). The OTCBB does not meet such requirements and if the price of our common stock drops to less than $5.00, our common stock will be deemed penny stocks. The penny stock rules require a broker-dealer, prior to a transaction in a penny stock not otherwise exempt from those rules, to deliver a standardized risk disclosure document containing specified information. In addition, the penny stock rules require that prior to effecting any transaction in a penny stock not otherwise exempt from those rules, a broker-dealer must make a special written determination that the penny stock is a suitable investment for the purchaser and receive (i) the purchaser's written acknowledgment of the receipt of a risk disclosure statement; (ii) a written agreement to transactions involving penny stocks; and (iii) a signed and dated copy of a written suitability statement. These disclosure requirements may have the effect of reducing the trading activity in the secondary market for our common stock, and therefore stock holders may have difficulty selling their shares.

An active trading market for our common stock may not develop.

Prior to our IPO, there was no public market for our common stock. Although our common stock is listed on The NASDAQ Capital Market, an active trading market for our shares may never develop or be sustained. If an active market for our common stock does not develop, it may be difficult for investors to sell their shares without depressing the market price for the shares or at all.

The price of our common stock may be volatile and fluctuate substantially.

Our stock price is likely to be volatile. The stock market in general and the market for smaller diagnostic services companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. The market price for our common stock may be influenced by many factors, including:

- the success of competitive products, services or technologies;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in the structure of health care payment systems;
- market conditions in the diagnostic services sector;
- general economic, industry and market conditions; and
- the other factors described in this "Risk Factors" section.

Reports published by securities or industry analysts, including projections in those reports that exceed our actual results, could adversely affect our common stock price and trading volume.

Securities research analysts may establish and publish their own periodic projections for our business. These projections may vary widely from one another and may not accurately predict the results we actually achieve. Our stock price may decline if our actual results do not match securities research analysts' projections. Similarly, if one or more of the analysts who writes reports on us downgrades our stock or publishes inaccurate or unfavorable research about our business, our stock price could decline. If one or more of these analysts ceases coverage of our company or fails to publish reports on us regularly, our stock price or trading volume could decline. While we expect securities research analyst coverage, if no securities or industry analysts begin to cover us, the trading price for our stock and the trading volume could be adversely affected.

Future sales of our common stock, or the perception that future sales may occur, may cause the market price of our common stock to decline, even if our business is doing well.

Sales of substantial amounts of our common stock in the public market, or the perception that these sales may occur, could materially and adversely affect the price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. The shares of common stock sold in our IPO are freely tradable, without restriction, in the public market, except for any shares sold to our affiliates.

In connection with our IPO, we, our officers and directors and holders of our outstanding common stock agreed, subject to limited exceptions, not to issue, sell or transfer any shares of common stock for 180 days after June 17, 2014 without the consent of Aegis Capital Corp. However, Aegis Capital Corp. may release these shares from any restrictions at any time. We cannot predict what effect, if any, market sales of shares held by any stockholder or the availability of shares for future sale will have on the market price of our common stock.

All of the shares of our common stock outstanding immediately prior to the IPO may be sold in the public market by our stockholders on or about 181 days after June 17, 2014, although the shares held by LeBow Alpha will be subject to volume and other limitations imposed under the federal securities laws. Sales of substantial amounts of our common stock in the public market, or the perception that such sales could occur, could adversely affect the market price of our common stock and could materially impair our ability to raise capital through offerings of our common stock.

We are an "emerging growth company," and the reduced disclosure requirements applicable to emerging growth companies may make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and may remain an emerging growth company for up to five years. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced “Management’s Discussion and Analysis of Financial Condition and Results of Operations” disclosure;

- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;

- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the financial statements;

- reduced disclosure obligations regarding executive compensation; and

- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

We cannot predict whether investors will find our common stock less attractive if we rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

We have elected to avail ourselves of the extended transition period for adopting new or revised accounting standards available to emerging growth companies under the JOBS Act and will, therefore, not be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies, which could make our common stock less attractive to investors.

The JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of these accounting standards until they would otherwise apply to private companies. The Company has elected to avail itself of this extended transition period for adopting new or revised accounting standards and therefore, we will not be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies. As a result of this election, our financial statements may not be comparable to companies that comply with public company effective dates.

We cannot predict whether investors will find our stock less attractive as a result of this election. If some investors find our common stock less attractive as a result of this election, there may be a less active trading market for our common stock and our stock price may be more volatile.

We will incur increased costs as a result of operating as a public company, particularly once we cease to be an emerging growth company, and our management will be required to devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, and particularly after we are no longer an emerging growth company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of The NASDAQ Capital Market and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, which in turn could make it more difficult for us to attract and retain qualified members of our board of directors.

We are evaluating these rules and regulations, and cannot predict or estimate the amount of additional costs we may incur or the timing of such costs. These rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we will be required to furnish a report by our management on our internal control over financial reporting. However, while we remain an emerging growth company, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by Section 404. If we identify one or more material weaknesses, it could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

We do not anticipate paying future dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

We currently do not have any net operating loss carryforwards.

Net operating losses incurred by the Company as of December 31, 2013 have been used by the members to offset gains on other interests and are therefore not able to be carried forward to the Company.

We have identified a material weakness in our internal control over financial reporting. If our internal control over financial reporting is not effective, we may not be able to accurately report our financial results or file our periodic reports in a timely manner, which may cause investors to lose confidence in our reported financial information and may lead to a decline in our stock price.

In connection with the audit of the Company's consolidated financial statements as of and for the years ended December 31, 2013 and 2012 and our expanded reporting requirements related to this filing, we identified a material weakness in our internal control over financial reporting. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our financial statements will not be prevented or detected on a timely basis. The material weakness identified was due to a lack of accounting and finance personnel and the reliance on outside consultants. As such, our controls over financial reporting were not designed or operating effectively, and as a result there were adjustments required in connection with closing our books and records and preparing our December 31, 2013 and 2012 consolidated financial statements that were made by outside consultants.

In an effort to remediate this material weakness, effective August 4, 2014, we hired a Chief Financial Officer with public company financial reporting expertise to build our financial management and reporting infrastructure, and further develop and document our accounting policies and financial reporting procedures. However, we cannot assure you that the remediation measures that we have taken thus far and plan to take in the future will be sufficient to address our existing material weakness or to identify or prevent additional material weaknesses.

Neither we nor our independent registered public accounting firm has performed an evaluation of our internal control over financial reporting during any period in accordance with the provisions of the Sarbanes-Oxley Act. It is possible that, had we and our independent registered public accounting firm performed an evaluation of our internal control over financial reporting in accordance with the provisions of the Sarbanes-Oxley Act, material weaknesses or significant control deficiencies may have been identified. However, for as long as we remain an "emerging growth company" as defined in the JOBS Act, we intend to take advantage of the exemption permitting us not to comply with the requirement that our independent registered public accounting firm provide an attestation on the effectiveness of our internal control over financial reporting.

If we fail to remediate the material weakness or to meet the demands that will be placed upon us as a public company, including the requirements of the Sarbanes-Oxley Act, we may be unable to accurately report our financial results, or report them within the timeframes required by law or stock exchange regulations. Failure to comply with Section 404 of the Sarbanes-Oxley Act could also potentially subject us to sanctions or investigations by the SEC or other regulatory authorities. There is no assurance that we will be able to remediate the material weakness in a timely manner, or at all, or that in the future, additional material weaknesses will not exist or otherwise be discovered. If our efforts to remediate a material weakness are not successful, or if other material weaknesses or other deficiencies occur, our ability to accurately and timely report our financial position could be impaired, which could result in late filings of our annual and quarterly reports under the Securities Exchange Act of 1934, as amended, or the Exchange Act, restatements of our consolidated financial statements, a decline in our stock price, suspension or delisting of our common stock from the NASDAQ Capital Market, and could adversely affect our reputation, results of operations and financial condition.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

Unregistered Sales of Equity Securities

On June 23, 2014, we completed our IPO, pursuant to which we offered and sold 850,000 shares of common stock, par value $0.01 per share, at a public offering price of $10.00 per share. Also on June 17, 2014, in connection with our IPO, we converted from a Delaware limited liability company to a Delaware corporation.

Immediately prior to our IPO, we converted $27,326,287 aggregate principal amount of debt into an aggregate of 2,732,629 Class C units of Signal Genetics LLC, which Class C units were subsequently converted into 2,732,629 shares of common stock in connection with the Corporate Conversion. The issuance of Class C units in the Debt Conversion was exempt from registration under the Securities Act of 1933, as amended (the "Securities Act'), by virtue of the exemption provided under Section 3(a)(9), as the exchange was made by us with our existing security holders exclusively and no commission or other remuneration was paid or given directly or indirectly for soliciting such exchange.

At the time of the Corporate Conversion, all of the outstanding Class A and Class C units of the Signal Genetics LLC were automatically converted into an aggregate of 2,932,629 shares of our common stock. The issuance of common stock to our members in the Corporate Conversion was exempt from registration under the Securities Act by virtue of the exemption provided under Section 3(a)(9) thereof, as the common stock was exchanged by us with our existing security holders exclusively and no commission or other remuneration was paid or given directly or indirectly for soliciting such exchange. The issuance of common stock was also exempt from registration under the Securities Act by virtue of Section 4(a)(2) thereof, as a transaction not involving a public offering.

Immediately prior to our IPO, we also issued 831,593 restricted stock units to certain employees of the Company. The issuance of these securities was also exempt from registration under the Securities Act by virtue of Section 4(a)(2) thereof, as a transaction not involving a public offering or Rule 701 promulgated under Section 3(b) of the Securities Act as a transaction pursuant to a compensatory benefit plan or contract relating to compensation.

Use of Proceeds

As noted above, on June 23, 2014, we completed our IPO pursuant to which we offered and sold 850,000 shares of our common stock at a public offering price of $10.00 per share (for an aggregate offering price of $8,500,000), pursuant to the Company's Registration Statement on Form S-1 (File No. 333-194668) which was declared effective by the SEC on June 17, 2014. After deducting underwriting discounts and commissions of approximately $595,000, and other offering expenses payable by us of approximately $1,761,000, the Company received approximately $6,144,000 in net proceeds. Aegis Capital Corp. acted as the sole book-running manager for the offering

There has been no material change in the planned use of proceeds from our IPO as described in our final prospectus filed with the SEC on June 19, 2014 pursuant to Rule 424(b). No payments were made by us to directors, officers or persons owning ten percent or more of our common stock or to their associates, or to our affiliates, other than payments in the ordinary course of business to officers for salaries. Pending the uses described, we have invested the net proceeds in our operating cash account.

Item 6. Exhibits.

Exh. No.	Exhibit Name
3.1	Certificate of Incorporation of Signal Genetics, Inc., effective as of June 17, 2014.
3.2	Bylaws of Signal Genetics, Inc., effective as of June 17, 2014.
10.1^	2014 Stock Incentive Plan.
10.2	Form of Stock Option Grant Agreement under the 2014 Stock Incentive Plan (incorporated by reference to Exhibit 4.5 to the Registration Statement on Form S-8 (No. 333-197316) filed with the Securities and Exchange Commission on July 9, 2014).
10.3	Form of Restricted Stock Unit Grant Agreement under the 2014 Stock Incentive Plan (incorporated by reference to Exhibit 4.6 to the Registration Statement on Form S-8 (No. 333-197316) filed with the Securities and Exchange Commission on July 9, 2014).
10.4	Amended and Restated Employment Agreement between Signal Genetics, Inc. and Samuel D. Riccitelli, dated June 17, 2014.
10.5	Amendment to Amended and Restated Employment Agreement between Signal Genetics, Inc. and Samuel D. Riccitelli, dated July 23, 2014 (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K (File No. 001-36483) filed on July 23, 2014).
10.6	Employment Agreement between Signal Genetics, Inc. and Tamara A. Seymour, dated July 21, 2014 (effective as of August 4, 2014) (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (File No. 001-36483) filed on July 23, 2014).
10.7	Employment Agreement between Signal Genetics, Inc. and Robert Johnson, dated May 12, 2014 (incorporated by reference to Exhibit 10.21 to Amendment No. 2 to the Form S-1 (No. 333-194668) filed on May 15, 2014).
10.8	Exchange Agreement, dated June 17, 2014, by and among Signal Genetics LLC, LeBow Alpha LLLP, LeBow Gamma Limited Partnership, BSL Capital, Inc., Bennett S. LeBow, the LeBow 2012 Nevada Trust and the LFIT-A Trust.
10.9	Letter Agreement between The Board of Trustees of the University of Arkansas on behalf of the University of Arkansas for Medical Sciences and Signal Genetics, Inc., dated May 16, 2014 (incorporated by reference to Exhibit 10.23 to Amendment No. 3 to the Form S-1 (No. 333-194668) filed on May 27, 2014).
31.1	Rule 13a-14(a) Certification of Principal Executive Officer of Registrant
31.2	Rule 13a-14(a) Certification of Principal Financial Officer of Registrant
32+	Section 1350 Certification
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase
101.DEF*	XBRL Taxonomy Extension Definition Linkbase
101.LAB*	XBRL Taxonomy Extension Label Linkbase
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase

^ *Corrected version of previously filed exhibit.*

+ This certification is being furnished solely to accompany this Quarterly Report pursuant to 18 U.S.C. Section 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934 and is not to be incorporated by reference into any filing of the Registrant, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

** Pursuant to Rule 406T of Regulation S-T, the XBRL (Extensible Business Reporting Language) information included in Exhibit 101 hereto is deemed furnished and not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, or deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and otherwise is not subject to liability under these sections.*

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

August 14, 2014

SIGNAL GENETICS, INC.

By: /s/ Samuel D. Riccitelli
Samuel D. Riccitelli
President and Chief Executive Officer

CERTIFICATE OF INCORPORATION
OF
SIGNAL GENETICS, INC.

The undersigned, a natural person, for the purposes of organizing a corporation for conducting the business and promoting the purposes hereinafter stated, under the provisions and subject to the requirements of the laws of the State of Delaware (particularly Chapter 1, Title 8 of the Delaware Code and the acts amendatory thereof and supplemental thereto, and known and referred to as the "DGCL"), hereby certifies that:

ARTICLE I: The name of this Corporation is Signal Genetics, Inc. (the "Corporation").

ARTICLE II: The address of the registered office of the Corporation in the State of Delaware is 1811 Silverside Road, City of Wilmington, County of New Castle, Delaware 19810. The name of the Corporation's registered agent at such address is Vcorp Services, LLC.

ARTICLE III: The purpose of the Corporation is to engage in any lawful act or activity for which a corporation may be organized under the DGCL.

ARTICLE IV: A. The total number of shares of all classes of stock which the Corporation shall have the authority to issue is 55,000,000 shares consisting of:

1. 50,000,000 shares of common stock, with a par value of $0.01 per share (the "Common Stock"); and

2. 5,000,000 shares of preferred stock, with a par value of $0.01 per share (the "Preferred Stock").

B. Each holder of Common Stock, as such, shall be entitled to one vote for each share of Common Stock held of record by such holder on all matters on which stockholders generally are entitled to vote; provided, however, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to this Certificate of Incorporation (including any Certificate of Designations relating to any series of Preferred Stock) that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to this Certificate of Incorporation (including any Certificate of Designations relating to any series of Preferred Stock) or pursuant to DGCL.

C. The Board of Directors is authorized, subject to any limitations prescribed by law, to provide for the issuance of the shares of Preferred Stock in series and, by filing a certificate pursuant to the applicable law of the State of Delaware, to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences and rights of the shares of each such series and any qualifications, limitations or restrictions thereon. The number of authorized shares of Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the outstanding shares of Common Stock without a vote of the holders of the Preferred Stock, or of any series thereof, unless a vote of any such holders is required pursuant to the certificate or certificates establishing the series of Preferred Stock.

ARTICLE V: The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors. The number of directors of the Corporation shall be as specified in the Bylaws of the Corporation, but such number may from time to time be increased or decreased in such manner as may be prescribed by the Bylaws. In no event shall the number of directors be less than the minimum prescribed by law. The directors of the Corporation need not be elected by written ballot unless the Bylaws so provide. Directors need not be stockholders.

ARTICLE VI: In addition to the powers and authority expressly conferred upon them by statute or by this Certificate of Incorporation or the Bylaws of the Corporation, the directors are hereby empowered to exercise all such powers and do all such acts and things as may be exercised or done by the Corporation.

ARTICLE VII: The Board of Directors is expressly empowered to adopt, amend, alter or repeal the Bylaws of the Corporation. The stockholders shall also have the power to adopt, amend, alter or repeal the Bylaws of the Corporation. Any adoption, amendment, alteration or repeal of the Bylaws of the Corporation by the stockholders shall require, in addition to any votes of the holders of any class or series of stock of the Corporation required by law or by this Certification of Incorporation, the affirmative vote of the holders of a majority of the voting power of all outstanding shares of the capital stock of the Corporation entitled to vote generally in the election or directors, voting together as a single class.

ARTICLE VIII: A director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involved intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL, or (iv) for any transaction from which the director derived an improper personal benefit. No amendment to or repeal of this ARTICLE VIII shall apply to or have any effect on the liability or alleged liability of any director of the Corporation for or with respect to any acts or omissions of such director occurring prior to such amendment.

ARTICLE IX: Each person (and the heirs, executors or administrators of such person) who was or is a party or is threatened to be made a party to, or is involved in any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that such person is or was a director or officer of the Corporation or is or was serving at the request of the Corporation as a director or officer of another corporation, partnership, joint venture, trust or other enterprise, shall be indemnified and held harmless by the Corporation to the fullest extent permitted by the DGCL. The right to indemnification conferred in this ARTICLE IX shall also include the right to be paid by the Corporation the expenses incurred in connection with any such proceeding in advance of its final disposition to the fullest extent authorized by the DGCL. The right to indemnification conferred in this ARTICLE IX shall be a contract right. The Corporation may, by action of its Board of Directors, provide indemnification to such of the employees and agents of the Corporation to such extent and to such effect as the Board of Directors shall determine to be appropriate and authorized by the DGCL. The rights and authority conferred in this ARTICLE IX shall not be exclusive of any other right which any person may otherwise have or hereafter acquire. Neither the amendment nor repeal of this ARTICLE IX, nor the adoption of any provision of this Certificate of Incorporation or the Bylaws of the Corporation, nor, to the fullest extent permitted by the DGCL, any modification of law, shall eliminate or reduce the effect of this ARTICLE IX in respect of any acts or omissions occurring prior to such amendment, repeal, adoption or modification.

ARTICLE X: Meetings of the stockholders of the Corporation may be held within or without the State of Delaware, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept (subject to any provision contained in the DGCL) outside of the State of Delaware at such place or places as may be designated from time to time by the board of directors of the Corporation or in the Bylaws of the Corporation.

ARTICLE XI: The Corporation reserves the right to amend or repeal any provision contained in this Certificate of Incorporation by the affirmative vote of the majority of the holders of the total voting power of the then outstanding shares of capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class in any manner now or hereafter permitted by the DGCL and all rights of the stockholders of the Corporation are granted subject to this reservation.

ARTICLE XII: The name and mailing address of the incorporator are as follows: Samuel D. Riccitelli, 667 Madison Avenue, 14th Floor, New York, NY, 10065.

[Signature page follows]

IN WITNESS WHEREOF, I, the Undersigned, for the purpose of forming a corporation under the laws of the State of Delaware, do make, file and record this Certificate, and do certify that the facts herein stated are true, and I have accordingly hereunto set my hand this 17th day of June, 2014.

BY: /s/ Samuel D. Riccitelli

NAME: Samuel D. Riccitelli

[*Signature page to Signal Genetics, Inc. Certification of Incorporation*]

Exhibit 3.2

BYLAWS

OF

SIGNAL GENETICS, INC.

ARTICLE 1
OFFICES

Section 1.01. *Registered Office*. The registered office of Signal Genetics, Inc. (hereinafter, the "Corporation") shall be in the City of Wilmington, County of New Castle, State of Delaware 19810.

Section 1.02. *Other Offices*. The Corporation may also have offices at such other places both within and without the State of Delaware as the board of directors of the Corporation (the "Board of Directors") may from time to time determine or the business of the Corporation may require.

Section 1.03. *Books*. The books of the Corporation may be kept within or without the State of Delaware as the Board of Directors may from time to time determine or the business of the Corporation may require.

ARTICLE 2
MEETINGS OF STOCKHOLDERS

Section 2.01. *Time and Place of Meetings*. All meetings of the stockholders shall be held at such place, if any, either within or without the State of Delaware, on such date and at such time as may be determined from time to time by the Board of Directors (or the Chairman in the absence of a designation by the Board of Directors).

Section 2.02. *Annual Meetings*. An annual meeting of the stockholders, commencing with the year 2015, shall be held for the election of directors and to transact such other business as may properly be brought before the meeting. Any other proper business may be transacted at the annual meeting. The Board of Directors may postpone, reschedule or cancel any annual meeting of stockholders previously scheduled by the Board of Directors.

Section 2.03. *Special Meetings*. Special meetings of the stockholders for any purpose or purposes may be called by the Board of Directors, the Chairman of the Board of Directors or the President of the Corporation, and may not be called by any other person. Business transacted at any special meeting of the stockholders shall be limited to the purposes stated in the notice. The Board of Directors may postpone, reschedule or cancel any special meeting of stockholders previously scheduled by the Board of Directors. Notwithstanding the foregoing, whenever holders of one or more classes or series of Preferred Stock shall have the right, voting separately as a class or series, to elect directors, such holders may call, pursuant to the terms of the resolution or resolutions adopted by the Board of Directors pursuant to Article 4 hereto, special meetings of holders of such Preferred Stock.

Section 2.04. *Notice of Meetings and Adjourned Meetings; Waivers of Notice*.

(a) Whenever stockholders are required or permitted to take any action at a meeting, a written notice of the meeting shall be given which shall state the place, if any, date and hour of the meeting, the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, the record date for determining the stockholders entitled to vote at the meeting (if such date is different from the record date for stockholders entitled to notice of the meeting) and, in the case of a special meeting, the purpose or purposes for which the meeting is called. Unless otherwise provided by the General Corporation Law of the State of Delaware as the same exists or may hereafter be amended ("Delaware Law"), the Certificate of Incorporation or these Bylaws, such notice of any meeting shall be given not less than ten (10) nor more than sixty (60) days before the date of the meeting to each stockholder of record entitled to vote at such meeting. Except as otherwise provided herein or permitted by applicable law, notice of stockholders shall be in writing and delivered personally or mailed to the stockholders at their address appearing on the books of the Corporation. Without limiting the manner by which notice otherwise may be given effectively to stockholders, notice of meetings may be given to stockholders by means of electronic transmission in accordance with applicable law.

(b) Any meeting of the stockholders, annual or special, may be adjourned from time to time to reconvene at the same or some other place, if any. Unless these Bylaws otherwise require, when a meeting is adjourned to another time or place (whether or not a quorum is present), notice need not be given of the adjourned meeting if the time, place, if any, thereof and the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the Corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than thirty (30) days, or after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting as of the record date for determining the stockholders entitled to notice of the meeting. If mailed, such notice shall be deemed to be given when deposited in the United States mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the records of the Corporation.

(c) A written waiver of any such notice signed by the person entitled thereto, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends the meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Any stockholder so waiving notice of the meeting shall be bound by the proceedings of the meeting in all respects as if due notice thereof had been given. Business transacted at any special meeting of stockholders shall be limited to the purposes stated in the notice.

Section 2.05. *Quorum*. Unless otherwise provided in the Certificate of Incorporation or these Bylaws, and subject to Delaware Law, the presence, in person or by proxy, of the holders of a majority of the outstanding capital stock of the Corporation entitled to vote at a meeting of stockholders shall constitute a quorum for the transaction of business. If, however, such quorum shall not be present or represented at any meeting of the stockholders, the stockholders entitled to vote thereat, present in person or represented by proxy, shall have adjourn the meeting in the manner provided in Section 2.04, without notice other than announcement at the meeting, until a quorum shall be present or represented. A quorum once established, shall not be broken by the subsequent withdrawal of enough votes to leave less than a quorum. At such adjourned meeting at which a quorum shall be present or represented, any business may be transacted which might have been transacted at the meeting as originally notified. Shares of stock of the Corporation belonging to the Corporation or to another corporation, if a majority of the shares entitled to vote in the election of directors of such other corporation is held, directly or indirectly, by the Corporation, shall neither be entitled to vote nor be counted for quorum purposes; provided, however, that the foregoing shall not limit the right of the Corporation, or any subsidiary of the Corporation, to vote stock, including but not limited to its own stock, held by it in a fiduciary capacity.

Section 2.06. *Voting; Proxies.*

(a) Unless otherwise provided in the Certificate of Incorporation and subject to Delaware Law, each stockholder shall be entitled to one vote for each outstanding share of capital stock of the Corporation held by such stockholder. Any share of capital stock of the Corporation held by the Corporation shall have no voting rights. Except as otherwise provided by law, the Certificate of Incorporation or these Bylaws, in all matters other than the election of directors, the affirmative vote of the majority of the shares of capital stock of the Corporation present in person or represented by proxy at the meeting and entitled to vote on the subject matter shall be the act of the stockholders. Subject to the rights of the holders of any series of preferred stock to elect additional directors under specific circumstances, directors shall be elected by a plurality of the votes cast at a meeting of the stockholders by the holders of stock entitled to vote in the election of directors.

(b) Each stockholder entitled to vote at a meeting of stockholders, or to express consent or dissent to a corporate action in writing without a meeting, may authorize another person or persons to act for such stockholder by proxy, appointed by an instrument in writing, subscribed by such stockholder or by his attorney thereunto authorized, or by proxy sent by cable, telegram or by any means of electronic communication permitted by law, which results in a writing from such stockholder or by his attorney, and delivered to the secretary of the meeting. No proxy shall be voted or acted upon after three (3) years from its date, unless said proxy provides for a longer period. A proxy shall be irrevocable if it states that it is irrevocable and if, and only as long as, it is coupled with an interest sufficient in law to support an irrevocable power. A stockholder may revoke any proxy which is not irrevocable by attending the meeting and voting in person or by delivering to the Secretary of the Corporation a revocation of the proxy or a new proxy bearing a later date.

(c) Voting at meetings of stockholders need not be by written ballot. Votes may be cast by any stockholder entitled to vote in person or by his proxy. In determining the number of votes cast for or against a proposal or nominee, shares abstaining from voting on a matter (including elections) will not be treated as a vote cast, but will be counted for purposes of determining a quorum. A non-vote by a broker will be counted for purposes of determining a quorum but not for purposes of determining the number of votes cast.

(d) All other elections and questions presented to the stockholders at a meeting at which a quorum is present shall, unless otherwise provided by the Certificate of Incorporation, these Bylaws, the rules or regulations of any stock exchange applicable to the Corporation, or applicable law or pursuant to any regulation applicable to the Corporation or its securities, be decided by the affirmative vote of the holders of a majority in voting power of the shares of stock of the Corporation which are present in person or by proxy and entitled to vote thereon.

Section 2.07. *Inspector of Elections; Opening and Closing the Polls*. The Board of Directors by resolution shall appoint one or more inspectors, which inspector or inspectors may include individuals who serve the Corporation in other capacities, including, without limitation, as officers, employees, agents or representatives, to act at the meetings of stockholders and make a written report thereof. One or more persons may be designated as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate has been appointed to act or is able to act at a meeting of stockholders, the presiding officer of the meeting shall appoint one or more inspectors to act at the meeting. Each inspector, before discharging his or her duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his or her ability. The inspectors shall have the duties prescribed by law. The presiding officer of the meeting shall fix and announce at the meeting the date and time of the opening and the closing of the polls for each matter upon which the stockholders will vote at a meeting.

Section 2.08. *Written Consent of Stockholders Without a Meeting*. Any action to be taken at any annual or special meeting of stockholders may be taken without a meeting, without prior notice and without a vote, if a consent or consents in writing, setting forth the action to be so taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted and shall be delivered (by hand or by certified or registered mail, return receipt requested) to the Corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Every written consent shall bear the date of signature of each stockholder who signs the consent, and no written consent shall be effective to take the corporate action referred to therein unless, within 60 days of the earliest dated consent delivered in the manner required by this Section 2.08, written consents signed by a sufficient number of holders to take action are delivered to the Corporation as aforesaid. Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall, to the extent required by applicable law, be given to those stockholders who have not consented in writing, and who, if the action had been taken at a meeting, would have been entitled to notice of the meeting if the record date for notice of such meeting had been the date that written consents signed by a sufficient number of holders to take the action were delivered to the Corporation.

Section 2.09. *Organization*. At each meeting of stockholders, the Chairman of the Board, if one shall have been elected, or in the Chairman's absence or if one shall not have been elected, the director designated by the vote of the majority of the directors present at such meeting, shall act as chairman of, and preside at, the meeting. The Secretary, or in the Secretary's absence or inability to act, the person whom the chairman of the meeting shall appoint secretary of the meeting, shall act as secretary of the meeting and keep the minutes thereof.

Section 2.10. *Order of Business*. The order of business at all meetings of stockholders shall be as determined by the chairman of the meeting.

Section 2.11. *Nomination of Directors*. Only persons who are nominated in accordance with the procedures set forth in these Bylaws shall be eligible to serve as directors. Nominations of persons for election to the Board of Directors of the Corporation may be made at a meeting of stockholders (a) by or at the direction of the Board of Directors or (b) by any stockholder of the Corporation who is a stockholder of record at the time of giving of notice provided for in this Section 2.11, who shall be entitled to vote for the election of directors at the meeting and who complies with the notice procedures set forth in this Section 2.11. Such nominations, other than those made by or at the direction of the Board of Directors, shall be made pursuant to timely notice in writing to the secretary of the Corporation. To be timely, a stockholder's notice shall be delivered to or mailed and received at the principal executive offices of the Corporation not later than the close of business on the sixtieth (60^{th}) day, nor earlier than the close of business on the ninetieth (90^{th}) day in advance of the first anniversary of the preceding year's annual meeting of stockholders; provided, however, that in the event that the date of the annual meeting is advanced more than thirty (30) days prior to such anniversary date or delayed more than sixty (60) days after such anniversary date then to be timely such notice must be received by the Corporation no later than the later of the close of business on the seventieth (70^{th}) day prior to the date of the meeting or the close of business on the tenth (10^{th}) day following the day on which public announcement of the date of the meeting was made. In no event shall the public announcement of the new meeting date commence a new notice time period (or extend any notice time period). Such stockholder's notice shall set forth (a) as to each person whom the stockholder proposes to nominate for election or reelection as a director, all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors, or is otherwise required, in each case pursuant to Regulation 14A under the Securities Exchange Act of 1934 (including such person's written consent to being named in the proxy statement as a nominee and to serving as a director if elected); and (b) as to the stockholder giving the notice (i) the name and address, as they appear on the Corporation's books, of such stockholder, and of the beneficial owner, if any, on whose behalf the nomination is being made, (ii) the class and number of shares of the Corporation which are owned (beneficially and of record) by such stockholder and owned by the beneficial owner, if any, on whose behalf the nomination is being made, as of the date of the stockholder’s notice, and a representation that the stockholder will notify the Corporation in writing of the class and number of such shares owned of record and beneficially as of the record date for the meeting promptly following the later of the record date or the date notice of the record date is first publicly disclosed, (iii) a description of any agreement, arrangement or understanding with respect to such nomination between or among the stockholder and any of its affiliates or associates, and any others (including their names) acting in concert with any of the foregoing, and a representation that the stockholder will notify the Corporation in writing of any such agreement, arrangement or understanding in effect as of the record date for the meeting promptly following the later of the record date or the date notice of the record date is first publicly disclosed, (iv) a description of any agreement, arrangement or understanding (including, regardless of the form of settlement, any derivative, long or short positions, profit interests, forwards, futures, swaps, options, warrants, convertible securities, stock appreciation or similar rights, hedging transactions and borrowed or loaned shares) that has been entered into as of the date of the proposing stockholder’s notice, by or on behalf of such stockholder with respect to the Corporation’s securities, or any other agreement, arrangement or understanding that has been made, the effect or intent of which is to create or mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder with respect to the Corporation's securities, and a representation that the stockholder will notify the Corporation in writing of any such agreement, arrangement or understanding in effect as of the record date for the meeting promptly following the later of the record date or the date notice of the record date is first publicly disclosed; (v) a representation that the proposing stockholder is a holder of record of the shares of the Corporation entitled to vote at the meeting and intends to appear in person or by proxy at the meeting to nominate the person or persons specified in the notice, and (vi) a representation whether the proposing stockholder intends to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation’s outstanding capital stock required to approve the nomination and/or otherwise to solicit proxies from the stockholders in support of the nomination. The Corporation may require any proposed nominee to furnish such other information as it may reasonably require to determine the eligibility of such proposed nominee to serve as an independent director of the Corporation or that could be material to a reasonable stockholder’s understanding of the independence, or lack thereof, of such nominee. At the request of the Board of Directors, any person nominated by the Board of Directors for election as a director shall furnish to the secretary of the Corporation that information required to be set forth in a stockholder's notice of nomination that pertains to the nominee. No person shall be eligible to serve as a director of the Corporation unless nominated in accordance with the procedures set forth in this bylaw. The chairman of the meeting shall, if the facts warrant, determine and declare to the meeting that a nomination was not made in accordance with the procedures prescribed by the Bylaws, and if he should so determine, he shall so declare to the meeting and the defective nomination shall be disregarded. Notwithstanding the foregoing provisions of this Section 2.11, a stockholder shall also comply with all applicable requirements of the Securities Exchange Act of 1934, and the rules and regulations thereunder with respect to the matters set forth in this Section 2.11.

Section 2.12. *Notice of Business*. At any meeting of the stockholders, only such business shall be conducted as shall have been brought before the meeting (a) by or at the direction of the Board of Directors or (b) by any stockholder of the Corporation who is a stockholder of record at the time of giving of the notice provided for in this Section 2.12, who shall be entitled to vote at such meeting and who complies with the notice procedures set forth in this Section 2.12. In addition, any proposal of business must be a proper matter for stockholder action. For business to be properly brought before a stockholder meeting by a stockholder, the stockholder must have given timely notice thereof in writing to the secretary of the Corporation. To be timely, a stockholder's notice shall be delivered to or mailed and received at the principal executive offices of the Corporation not later than the close of business on the sixtieth (60^{th}) day, nor earlier than the close of business on the ninetieth (90^{th}) day in advance of the first anniversary of the preceding year's annual meeting of stockholders; provided, however, that in the event that the date of the annual meeting is advanced more than thirty (30) days prior to such anniversary date or delayed more than sixty (60) days after such anniversary date then to be timely such notice must be received by the Corporation no later than the later of the close of business on the seventieth (70^{th}) day prior to the date of the meeting or the close of business on the tenth (10^{th}) day following the day on which public announcement of the date of the meeting was made. In no event shall the public announcement of the new meeting date commence a new notice time period (or extend any notice time period). A stockholder's notice to the secretary shall set forth as to each matter the stockholder proposes to bring before the meeting (a) a brief description of the business desired to be brought before the meeting and the reasons for conducting such business at the meeting, (b) the name and address, as they appear on the Corporation's books, of the stockholder proposing such business and of the beneficial owner, if any, on whose behalf the proposal is being made, (c) the class and number of shares of the Corporation which are owned (beneficially and of record) by such stockholder and owned by the beneficial owner, if any, on whose behalf the proposal is being made, as of the date of the stockholder's notice, and a representation that the stockholder will notify the Corporation in writing of the class and number of such shares owned of record and beneficially as of the record date for the meeting promptly following the later of the record date or the date notice of the record date is first publicly disclosed, (d) a description of any agreement, arrangement or understanding with respect to such nomination between or among the stockholder and any of its affiliates or associates, and any others (including their names) acting in concert with any of the foregoing, and a representation that the stockholder will notify the Corporation in writing of any such agreement, arrangement or understanding in effect as of the record date for the meeting promptly following the later of the record date or the date notice of the record date is first publicly disclosed, (e) a description of any agreement, arrangement or understanding (including, regardless of the form of settlement, any derivative, long or short positions, profit interests, forwards, futures, swaps, options, warrants, convertible securities, stock appreciation or similar rights, hedging transactions and borrowed or loaned shares) that has been entered into as of the date of the proposing stockholder's notice, by or on behalf of such stockholder with respect to the Corporation's securities, or any other agreement, arrangement or understanding that has been made, the effect or intent of which is to create or mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder with respect to the Corporation's securities, and a representation that the stockholder will notify the Corporation in writing of any such agreement, arrangement or understanding in effect as of the record date for the meeting promptly following the later of the record date or the date notice of the record date is first publicly disclosed, (f) a representation that the proposing stockholder is a holder of record of the shares of the Corporation entitled to vote at the meeting and intends to appear in person or by proxy at the meeting to propose the business specified in the notice, (g) a representation whether the proposing stockholder intends to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation's outstanding capital stock required to approve the proposal and/or otherwise to solicit proxies from the stockholders in support of the proposal, (h) any material interest of the stockholder in such business, and (i) any other information relating to such stockholder and beneficial owner, if any, on whose behalf the proposal is being made, required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for the proposal and pursuant to and in accordance with Regulation 14A under the Securities Exchange Act of 1934. Notwithstanding anything in the Bylaws to the contrary, no business shall be conducted at a stockholder meeting except in accordance with the procedures set forth in this Section 2.12. The chairman of the meeting shall, if the facts warrant, determine and declare to the meeting that business was not properly brought before the meeting and in accordance with the provisions of the Bylaws, and if he should so determine, he shall so declare to the meeting and any such business not properly brought before the meeting shall not be transacted. Notwithstanding the foregoing, provisions of this Section 2.12, a stockholder shall also comply with all applicable requirements of the Securities Exchange Act of 1934, and the rules and regulations thereunder with respect to the matters set forth in this Section 2.12.

Section 2.13. *Proxy Rules*. The foregoing notice requirements of Section 2.12 shall be deemed satisfied by a stockholder with respect to business other than a nomination if the stockholder has notified the Corporation of his, her or its intention to present a proposal at an annual meeting in compliance with the applicable rules and regulations promulgated under Regulation 14A under the Securities Exchange Act of 1934 and such stockholder's proposal has been included in a proxy statement that has been prepared by the Corporation to solicit proxies for such annual meeting.

Section 2.14. *Effect of Noncompliance*. Notwithstanding anything in these Bylaws to the contrary: (i) no nominations shall be made or business shall be conducted at any annual meeting except in accordance with the procedures set forth in this Article 2, and (ii) unless otherwise required by law, if a stockholder intending to propose business or make nominations at an annual meeting pursuant to this Article 2 does not provide the information required under this Article 2 to the Corporation promptly following the later of the record date or the date notice of the record date is first publicly disclosed, or the proposing stockholder (or a qualified representative of the proposing stockholder) does not appear at the meeting to present the proposed business or nominations, such business or nominations shall not be considered, notwithstanding that proxies in respect of such business or nominations may have been received by the Corporation. The requirements of this Article 2 shall apply to any business or nominations to be brought before an annual meeting by a stockholder whether such business or nomination are to be included in the Corporation's proxy statement pursuant to Rule 14a-8 of the Exchange Act or presented to stockholders by means of an independently financed proxy solicitation. The requirements of this Article 2 are included to provide the Corporation notice of a stockholder's intention to bring business or nominations before an annual meeting and shall in no event be construed as imposing upon any stockholder the requirement to seek approval from the Corporation as a condition precedent to bringing any such business or making such nominations before an annual meeting.

ARTICLE 3
DIRECTORS

Section 3.01. *General Powers*. Except as otherwise provided by Delaware Law or the Certificate of Incorporation, the business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors. The Board of Directors may adopt such rules and procedures, not inconsistent with the Certificate of Incorporation, these Bylaws, Delaware Law or other applicable law as it may deem proper for the conduct of its meetings and the management of the Corporation

Section 3.02. *Number, Election and Term of Office.* The Board of Directors shall consist of not less than three (3) nor more than eleven (11) directors, with the exact number of directors to be determined from time to time solely by resolution adopted by the affirmative vote of a majority of the entire Board of Directors. Except as otherwise provided in the Certificate of Incorporation, each director shall serve for a term ending on the date of the annual meeting of stockholders next following the annual meeting at which such director was elected. Notwithstanding the foregoing, each director shall hold office until such director's successor shall have been duly elected and qualified or until such director's earlier death, resignation or removal. Directors need not be stockholders.

Section 3.03. *Quorum and Manner of Acting*. Unless the Certificate of Incorporation or these Bylaws require a greater number, the presence of a majority of the total number of directors shall constitute a quorum for the transaction of business, and the affirmative vote of a majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors. When a meeting is adjourned to another time or place (whether or not a quorum is present), notice need not be given of the adjourned meeting if the time and place thereof are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the Board of Directors may transact any business which might have been transacted at the original meeting. If a quorum shall not be present at any meeting of the Board of Directors the directors present thereat shall adjourn the meeting, from time to time, without notice other than announcement at the meeting, until a quorum shall be present.

Section 3.04. *Time and Place of Meetings*. The Board of Directors shall hold its meetings at such place, either within or without the State of Delaware, and at such time as may be determined from time to time by the Board of Directors (or the Chairman in the absence of a determination by the Board of Directors).

Section 3.05. *Annual Meeting.* The Board of Directors shall meet for the purpose of organization, the election of officers and the transaction of other business, as soon as practicable after each annual meeting of stockholders, on the same day and at the same place where such annual meeting shall be held. Notice of such meeting need not be given. In the event such annual meeting is not so held, the annual meeting of the Board of Directors may be held at such place either within or without the State of Delaware, on such date and at such time as shall be specified in a notice thereof given as hereinafter provided in Section 3.07 herein or in a waiver of notice thereof signed by any director who chooses to waive the requirement of notice.

Section 3.06. *Regular Meetings*. After the place and time of regular meetings of the Board of Directors shall have been determined and notice thereof shall have been once given to each member of the Board of Directors, regular meetings may be held without further notice being given.

Section 3.07. *Special Meetings*. Special meetings of the Board of Directors may be called by the Chairman of the Board or the President and shall be called by the Chairman of the Board, President or Secretary on the written request of three or more directors. Notice of special meetings of the Board of Directors shall be given to each director at least three days before the date of the meeting in such manner as is determined by the Board of Directors.

Section 3.08. *Committees*. The Board of Directors may designate one or more committees, each committee to consist of one or more of the directors of the Corporation. The Board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board of Directors or by applicable law, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to the following matter: (a) approving or adopting, or recommending to the stockholders, any action or matter expressly required by Delaware Law to be submitted to the stockholders for approval or (b) adopting, amending or repealing any bylaw of the Corporation. Unless the Board of Directors provides otherwise, at all meetings of such committee, a majority of the then authorized members of the committee shall constitute a quorum for the transaction of business, and the vote of a majority of the members of the committee present at the meeting at which there is a quorum shall be the act of the Committee. Each committee shall keep regular minutes of its meetings and report the same to the Board of Directors when required. Except as otherwise provided in the Certificate of Incorporation, these Bylaws, or the resolution of the Board of Directors designating the committee, a committee may create one or more subcommittees, each subcommittee to consist of one or more members of the committee, and delegate to a subcommittee any or all of the powers and authority of the committee.

Section 3.09. *Action by Consent*. Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all members of the Board or such committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions, are filed with the minutes of proceedings of the Board of Directors or such committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

Section 3.10. *Telephonic Meetings*. Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, members of the Board of Directors, or any committee designated by the Board of Directors, may participate in a meeting of the Board of Directors, or such committee, as the case may be, by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

Section 3.11. *Resignation*. Any director may resign at any time by giving notice in writing or by electronic transmission to the Board of Directors or to the Secretary of the Corporation. The resignation of any director shall take effect upon receipt of notice thereof or at such later time as shall be specified in such notice; and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 3.12. *Vacancies*. Unless otherwise provided in the Certificate of Incorporation, vacancies on the Board of Directors resulting from death, resignation, removal or otherwise and newly created directorships resulting from any increase in the number of directors may be filled solely by the affirmative vote of a majority of the remaining directors then in office (although less than a quorum) or by the sole remaining director. Each director so elected shall hold office until the earlier of the expiration of the term of office of the director whom he or she has replaced, a successor is duly elected and qualified or the earlier of such director's death, resignation or removal. If there are no directors in office, then an election of directors may be held in accordance with Delaware Law. Unless otherwise provided in the Certificate of Incorporation, when one or more directors shall resign from the Board, effective at a future date, a majority of the directors then in office, including those who have so resigned, shall have the power to fill such future vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective, and each director so chosen shall hold office as provided in the filling of the other vacancies.

Section 3.13. *Removal*. No director may be removed from office by the stockholders except for cause with the affirmative vote of the holders of not less than a majority of the total voting power of all outstanding securities of the Corporation then entitled to vote generally in the election of directors, voting together as a single class.

Section 3.14. *Compensation*. Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, the Board of Directors shall have authority to fix the compensation of directors, including fees and reimbursement of expenses.

Section 3.15. *Preferred Stock Directors*. Notwithstanding anything else contained herein, whenever the holders of one or more classes or series of Preferred Stock shall have the right, voting separately as a class or series, to elect directors, the election, term of office, filing of vacancies, removal and other features of such directorships shall be governed by the terms of the resolutions applicable thereto adopted by the Board of Directors pursuant to the Certificate of Incorporation, and such directors so elected shall not be subject to the provisions of Sections 3.02, 3.12 and 3.13 of this Article 3 unless otherwise provided therein.

ARTICLE 4
OFFICERS

Section 4.01. *Principal Officers*. The officers of the Corporation shall be elected by the Board of Directors and shall include a president, a treasurer and a secretary. The Board of Directors, in its discretion, may also elect a chairman (who must be a director), one or more vice chairmen (who must be directors) and one or more vice presidents, assistant treasurers, assistant secretaries and other officers. Any two or more offices may be held by the same person.

(a) *President*. The President shall have general responsibility for the management and control of the operations of the corporation. The President shall have the power to affix the signature of the Corporation to all contracts that have been authorized by the Board of Directors. The President shall, when requested, counsel with and advise the other officers of the Corporation and shall perform such other duties as such officer may agree to or as the Board of Directors may from time to time determine.

(b) *Treasurer*. The Treasurer shall supervise and be responsible for all the funds and securities of the Corporation, the deposit of all moneys and other valuables to the credit of the Corporation in depositories of the Corporation, borrowings and compliance with the provisions of all indentures, agreements and instruments governing such borrowings to which the Corporation is a party, the disbursement of funds of the Corporation and the investment of its funds, and in general shall perform all of the duties incident to the office of the Treasurer. The Treasurer shall, when requested, counsel with and advise the other officers of the Corporation and shall perform such other duties as such officer may agree with the President or as the Board of Directors may from time to time determine.

(c) *Secretary*. The powers and duties of the Secretary are: (i) to act as Secretary at all meetings of the Board of Directors, of the committees of the Board of Directors and of the stockholders and to record the proceedings of such meetings in a book or books to be kept for that purpose; (ii) to see that all notices required to be given by the Corporation are duly given and served; (iii) to act as custodian of the seal of the Corporation and affix the seal or cause it to be affixed to all certificates of stock of the Corporation and to all documents, the execution of which on behalf of the Corporation under its seal is duly authorized in accordance with the provisions of these Bylaws; (iv) to have charge of the books, records and papers of the Corporation and see that the reports, statements and other documents required by law to be kept and filed are properly kept and filed; and (v) to perform all of the duties incident to the office of Secretary. The Secretary shall, when requested, counsel with and advise the other officers of the Corporation and shall perform such other duties as such officer may agree with the President or as the Board of Directors may from time to time determine.

Section 4.02. *Term of Office; Vacancy; and Remuneration*. Each officer shall hold office until his or her successor is elected and qualified, or until his or her earlier death, resignation or removal. Any vacancy in any office shall be filled in such manner as the Board of Directors shall determine. The remuneration of all officers of the Corporation shall be fixed by the Board of Directors.

Section 4.03. *Subordinate Officers*. The Board of Directors may delegate to any principal officer the power to appoint and to remove any such subordinate officers, agents or employees.

Section 4.04. *Removal*. Except as otherwise permitted with respect to subordinate officers, any officer may be removed, with or without cause, at any time, by the majority vote of the members of the Board of Directors then in office.

Section 4.05. *Resignations*. Any officer may resign at any time by giving written notice to the Board of Directors (or to a principal officer if the Board of Directors has delegated to such principal officer the power to appoint and to remove such officer) of such person's resignation. The resignation of any officer shall take effect upon receipt of notice thereof or at such later time as shall be specified in such notice; and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 4.06. *Powers and Duties*. The officers of the Corporation shall have such powers and perform such duties incident to each of their respective offices and such other duties as may from time to time be conferred upon or assigned to them by the Board of Directors.

ARTICLE 5
CAPITAL STOCK

Section 5.01. *Certificates for Stock; Uncertificated Shares*. The shares of the Corporation shall be represented by certificates, provided that the Board of Directors of the Corporation may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be uncertificated shares that may be evidenced by a book entry system maintained by the registrar of such stock. Any such resolution shall not apply to shares represented by a certificate until such certificate is surrendered to the Corporation. Except as otherwise provided by law, the rights and obligations of the holders of uncertificated shares and the rights and obligations of the holders of shares represented by certificates of the same class and series shall be identical. Every holder of stock represented by certificates shall be entitled to have a certificate signed by, or in the name of the Corporation by the Chairman or Vice Chairman of the Board of Directors, or the President or Vice President, and by the Treasurer or an Assistant Treasurer or the Secretary or an assistant Secretary of such Corporation representing the number of shares registered in certificate form. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such person were such officer, transfer agent or registrar at the date of issue. A Corporation shall not have power to issue a certificate in bearer form.

Section 5.02. *Transfer of Shares*. Shares of the stock of the Corporation may be transferred on the record of stockholders of the Corporation by the holder thereof or by such holder's duly authorized attorney upon surrender of a certificate therefor properly endorsed or upon receipt of proper transfer instructions from the registered holder of uncertificated shares or by such holder's duly authorized attorney and upon compliance with appropriate procedures for transferring shares in uncertificated form, unless waived by the Corporation.

Section 5.03. *Authority for Additional Rules Regarding Transfer.* The Board of Directors shall have the power and authority to make all such rules and regulations as they may deem expedient concerning the issue, transfer and registration of certificated or uncertificated shares of the stock of the Corporation, as well as for the issuance of new certificates in lieu of those which may be lost or destroyed, and may require of any stockholder requesting replacement of lost or destroyed certificates, bond in such amount and in such form as they may deem expedient to indemnify the Corporation, and/or the transfer agents, and/or the registrars of its stock against any claims arising in connection therewith.

Section 5.04. *Lost, Stolen or Destroyed Stock Certificates; Issuance of New Certificates.* The Corporation may issue a new certificate of stock in the place of any certificate theretofore issued by it, alleged to have been lost, stolen or destroyed, and the Corporation may require the owner of the lost, stolen or destroyed certificate, or such owner's legal representative, to give the Corporation a bond sufficient to indemnify it against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate.

ARTICLE 6
INDEMNIFICATION AND ADVANCEMENT OF EXPENSES

Section 6.01. *Right to Indemnification*. The Corporation shall indemnify and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person (a "Covered Person") who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "proceeding"), by reason of the fact that he or she, or a person for whom he or she is the legal representative, is or was a director or officer of the Corporation or, while a director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another Corporation or of a partnership, joint venture, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) reasonably incurred by such Covered Person. Notwithstanding the preceding sentence, except as otherwise provided in Section 6.3, the Corporation shall be required to indemnify a Covered Person in connection with a proceeding (or part thereof) commenced by such Covered Person only if the commencement of such proceeding (or part thereof) by the Covered Person was authorized in the specific case by the Board of Directors of the Corporation.

Section 6.02. *Prepayment of Expenses*. The Corporation shall to the fullest extent not prohibited by applicable law pay the expenses (including attorneys' fees) incurred by a Covered Person in defending any proceeding in advance of its final disposition, provided, however, that, to the extent required by law, such payment of expenses in advance of the final disposition of the proceeding shall be made only upon receipt of an undertaking by the Covered Person to repay all amounts advanced if it should be ultimately determined that the Covered Person is not entitled to be indemnified under this Article VI or otherwise.

Section 6.03. *Nonexclusivity of Rights*. The rights conferred on any Covered Person by this Article VI shall not be exclusive of any other rights which such Covered Person may have or hereafter acquire under any statute, provision of the Certificate of Incorporation, these Bylaws, agreement, vote of stockholders or disinterested directors or otherwise.

Section 6.04. *Other Sources*. The Corporation's obligation, if any, to indemnify or to advance expenses to any Covered Person who was or is serving at its request as a director, officer, employee or agent of another Corporation, partnership, joint venture, trust, enterprise or nonprofit entity shall be reduced by any amount such Covered Person may collect as indemnification or advancement of expenses from such other Corporation, partnership, joint venture, trust, enterprise or non-profit enterprise.

Section 6.05. *Amendment or Repeal*. Any right to indemnification or to advancement of expenses of any Covered Person arising hereunder shall not be eliminated or impaired by an amendment to or repeal of these Bylaws after the occurrence of the act or omission that is the subject of the civil, criminal, administrative or investigative action, suit or proceeding for which indemnification or advancement of expenses is sought.

Section 6.06. *Other Indemnification and Advancement of Expenses*. This Article VI shall not limit the right of the Corporation, to the extent and in the manner permitted by law, to indemnify and to advance expenses to persons other than Covered Persons when and as authorized by appropriate corporate action.

ARTICLE 7
GENERAL PROVISIONS

Section 7.01. *Fixing the Record Date*.

(a) In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more than sixty (60) nor less than ten (10) days before the date of such meeting. If the Board of Directors so fixes a date, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the Board of Directors determines, at the time it fixes the record date, that a later date on or before the date of the meeting shall be the date for making such determination. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided that the Board of Directors may fix a new record date for the determination of stockholders entitled to vote at the adjourned meeting and in such case shall also fix as the record date for stockholders entitled to notice of such adjourned meeting the same or an earlier date as that fixed for the determination of stockholders entitled to vote therewith at the adjourned meeting.

(b) In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than sixty (60) days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

Section 7.02. *Dividends*. Subject to limitations contained in Delaware Law and the Certificate of Incorporation, the Board of Directors may declare and pay dividends upon the shares of capital stock of the Corporation, which dividends may be paid either in cash, in property or in shares of the capital stock of the Corporation.

Section 7.03. *Year*. The fiscal year of the Corporation shall commence on January 1 and end on December 31 of each year. The fiscal year of the Corporation may be changed by the Board of Directors.

Section 7.04. *Corporate Seal*. The corporate seal shall have inscribed thereon the name of the Corporation, the year of its organization and the words "Corporate Seal, Delaware". The seal may be used by causing it or a facsimile thereof to be impressed, affixed or otherwise reproduced.

Section 7.05. *Voting of Stock Owned by the Corporation*. The Board of Directors may authorize any person, on behalf of the Corporation, to attend, vote at and grant proxies to be used at any meeting of stockholders of any Corporation (except this Corporation) in which the Corporation may hold stock.

Section 7.06. *Form of Records*. Any records maintained by the Corporation in the regular course of its business, including its stock ledger, books of account, and minute books, may be kept on, or by means of, or be in the form of, any information storage device or method, provided that the records so kept can be converted into clearly legible paper form within a reasonable time.

Section 7.07. *Amendments*. These Bylaws or any of them, may be altered, amended or repealed, or new Bylaws may be made, by the stockholders entitled to vote thereon at any annual or special meeting thereof or by the Board of Directors. Unless a higher percentage is required by the Certificate of Incorporation as to any matter which is the subject of these Bylaws, all such amendments must be approved by the affirmative vote of the holders of the majority of the total voting power of all outstanding securities of the Corporation then entitled to vote generally in the election of directors, voting together as a single class or by a majority of the Board of Directors.

SIGNAL GENETICS, INC.

2014 STOCK INCENTIVE PLAN

1. Establishment, Purpose and Types of Awards

Signal Genetics, Inc., a Delaware corporation (the "Company"), hereby establishes the Signal Genetics, Inc. 2014 Stock Incentive Plan (the "Plan"). The purpose of the Plan is to promote the long-term growth and profitability of the Company by (i) providing key people with incentives to improve stockholder value and to contribute to the growth and financial success of the Company through their future services, and (ii) enabling the Company to attract, retain and reward the best-available personnel.

The Plan permits the granting of stock options (including incentive stock options qualifying under Code section 422 and nonstatutory stock options), stock appreciation rights, restricted or unrestricted stock awards, restricted stock units, performance awards, other stock-based awards, or any combination of the foregoing.

2. Definitions

Under this Plan, except where the context otherwise indicates, the following definitions apply:

(a) *"Administrator"* means the Board or the committee(s) or officer(s) appointed by the Board that have authority to administer the Plan as provided in Section 3 hereof.

(b) *"Affiliate"* means any entity, whether now or hereafter existing, which controls, is controlled by, or is under common control with, the Company (including, but not limited to, joint ventures, limited liability companies, and partnerships). For this purpose, "*control*" shall mean ownership of 50% or more of the total combined voting power or value of all classes of stock or interests of the entity, or the power to direct the management and policies of the entity, by contract or otherwise.

(c) *"Award"* means any stock option, stock appreciation right, stock award, restricted stock unit award, performance award, or other stock-based award.

(d) *"Board"* means the Board of Directors of the Company.

(e) "*Change in Control*" means: a (i) Change in Ownership of the Company, (ii) Change in Effective Control of the Company, or (iii) Change in the Ownership of Assets of the Company, as described herein and construed in accordance with Code section 409A.

(i) A *Change in Ownership of the Company* shall occur on the date that any one Person acquires, or Persons Acting as a Group acquire, ownership of the capital stock of the Company that, together with the stock held by such Person or Group, constitutes more than 50% of the total fair market value or total voting power of the capital stock of the Company. However, if any one Person is, or Persons Acting as a Group are, considered to own more than 50% of the total fair market value or total voting power of the capital stock of the Company, the acquisition of additional stock by the same Person or Persons Acting as a Group is not considered to cause a Change in Ownership of the Company or to cause a Change in Effective Control of the Company (as described below). An increase in the percentage of capital stock owned by any one Person, or Persons Acting as a Group, as a result of a transaction in which the Company acquires its stock in exchange for property will be treated as an acquisition of stock.

(ii) A *Change in Effective Control of the Company* shall occur on the date a majority of members of the Company's Board is replaced during any 12-month period by directors whose appointment or election is not endorsed by a majority of the members of the Company's Board before the date of the appointment or election.

(iii) A *Change in the Ownership of Assets of the Company* shall occur on the date that any one Person acquires, or Persons Acting as a Group acquire (or has or have acquired during the 12-month period ending on the date of the most recent acquisition by such Person or Persons), assets from the Company that have a total gross fair market value of more than 50% of the total gross fair market value of all of the assets of the Company immediately before such acquisition or acquisitions. For this purpose, gross fair market value means the value of the assets of the Company, or the value of the assets being disposed of, determined without regard to any liabilities associated with such assets.

The following rules of construction apply in interpreting the definition of Change in Control:

(A) A *Person* means any individual, entity or group within the meaning of Section 13(d)(3) or 14(d)(2) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), other than employee benefit plans sponsored or maintained by the Company and by entities controlled by the Company or an underwriter of the capital stock of the Company in a registered public offering.

(B) Persons will be considered to be Persons Acting as a Group (or Group) if they are owners of a corporation that enters into a merger, consolidation, purchase or acquisition of stock, or similar business transaction with the corporation. If a Person owns stock in both corporations that enter into a merger, consolidation, purchase or acquisition of stock, or similar transaction, such shareholder is considered to be acting as a Group with other shareholders only with respect to the ownership in that corporation before the transaction giving rise to the change and not with respect to the ownership interest in the other corporation. Persons will not be considered to be acting as a Group solely because they purchase assets of the same corporation at the same time or purchase or own stock of the same corporation at the same time, or as a result of the same public offering.

(C) For purposes of this Section 2(e), fair market value shall be determined by the Administrator.

(D) A Change in Control shall not include a transfer to a related person as described in Code section 409A or a public offering of capital stock of the Company.

(E) For purposes of this Section 2(e), Code section 318(a) applies to determine stock ownership. Stock underlying a vested option is considered owned by the individual who holds the vested option (and the stock underlying an unvested option is not considered owned by the individual who holds the unvested option). For purposes of the preceding sentence, however, if a vested option is exercisable for stock that is not substantially vested (as defined by Treasury Regulation §1.833(b) and (j)), the stock underlying the option is not treated as owned by the individual who holds the option.

(f) *"Code"* means the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder.

(g) *"Common Stock"* means shares of common stock of the Company, par value of $0.01 per share.

(h) "*Fair Market Value*" means, with respect to the Common Stock, as of any date:

(i) if the principal market for the Common Stock (as determined by the Administrator if the Common Stock is listed or admitted to trading on more than one exchange or market) is a national securities exchange or an established securities market, the official closing price per share of Common Stock for the regular market session on that date on the principal exchange or market on which the Common Stock is then listed or admitted to trading or, if no sale is reported for that date, on the last preceding day on which a sale was reported;

(ii) if the principal market for the Common Stock is not a national securities exchange or an established securities market, the average of the highest bid and lowest asked prices for the Common Stock on that date as reported on a national quotation system or, if no prices are reported for that date, on the last preceding day on which prices were reported; or

(iii) if the Common Stock is neither listed nor admitted to trading on a national securities exchange or an established securities market, nor quoted by a national quotation system, the value determined by the Administrator in good faith.

With respect to property other than Common Stock, Fair Market Value means the value of the property determined by such methods or procedures to be established from time to time by the Board in accordance with Code section 409A.

(i) "*Full-Value Award*" means any Award other than (i) a stock option, (ii) a stock appreciation right or (iii) any other Award for which the Holder pays the intrinsic value existing as of the date of grant (whether directly or by forgoing a right to receive a payment from the Company or any subsidiary).

(j) *"Grant Agreement"* means a written document, including an electronic writing acceptable to the Administrator, memorializing the terms and conditions of an Award granted pursuant to the Plan and which shall incorporate the terms of the Plan.

(k) *"Performance Measures"* mean criteria established by the Administrator relating to any of the following, as it may apply to an individual, one or more business units, divisions or subsidiaries, or on a Company-wide basis, and in either absolute terms or relative to the performance of one or more comparable companies or an index covering multiple companies:

(i) *Earnings or Profitability Metrics*: including, but not limited to, earnings/loss (gross, operating, net, or adjusted); earnings/loss before interest and taxes ("EBIT"); earnings/loss before interest, taxes, depreciation and amortization ("EBITDA"); profit margins; expense levels or ratios; in each case adjusted to eliminate the effect of any one or more of the following: interest expense, asset impairments, early extinguishment of debt, stock-based compensation expense, changes in generally accepted accounting principles or critical accounting policies, or other extraordinary or non-recurring items, as specified by the plan administrator when establishing the performance goals;

(ii) *Return Metrics*: including, but not limited to, return on investment, assets, equity or capital (total or invested);

(iii) *Cash Flow Metrics*: including, but not limited to, operating cash flow; cash flow sufficient to achieve financial ratios or a specified cash balance; free cash flow; cash flow return on capital; net cash provided by operating activities; cash flow per share; working capital;

(iv) *Liquidity Metrics*: including, but not limited to, capital raising; debt reduction; extension of maturity dates of outstanding debt; debt leverage (debt to capital, net debt-to-capital, debt-to-EBITDA or other liquidity ratios) or access to capital; debt ratings; total or net debt; other similar measures approved by the plan administrator;

(v) *Stock Price and Equity Metrics*: including, but not limited to, return on stockholders' equity; total stockholder return; revenue (gross, operating or net); revenues from sales; revenues from search model; revenue growth; stock price; stock price appreciation; market capitalization; earnings/loss per share (basic or diluted) (before or after taxes); price-to-earnings ratio;

(vi) *Strategic Metrics*: including, but not limited to, number of users, site traffic, conversion ratios, product research and development; regulatory filings or approvals; patent application or issuance; manufacturing or process development; sales or net sales; geographic coverage; market share; market penetration; inventory control; growth in assets; key hires; business expansion; acquisitions, divestitures, affiliate agreements, collaborations, licensing or joint ventures; financing; resolution of significant litigation; legal compliance or risk reduction.

3. Administration

(a) *Administration of the Plan.* The Plan shall be administered by the Board or by such committee or committees as may be appointed by the Board from time to time. To the extent allowed by applicable state law, the Board by resolution may authorize an officer or officers to grant Awards (other than Stock Awards) to other officers and employees of the Company and its Affiliates, and, to the extent of such authorization, such officer or officers shall be the Administrator.

(b) *Powers of the Administrator*. The Administrator shall have all the powers vested in it by the terms of the Plan, such powers to include authority, in its sole and absolute discretion, to grant Awards under the Plan, prescribe Grant Agreements evidencing such Awards and establish programs for granting Awards.

The Administrator shall have full power and authority to take all other actions necessary to carry out the purpose and intent of the Plan, including, but not limited to, the authority to: (i) determine the eligible persons to whom, and the time or times at which Awards shall be granted; (ii) determine the types of Awards to be granted; (iii) determine the number of shares to be covered by or used for reference purposes for each Award; (iv) impose such terms, limitations, restrictions and conditions upon any such Award as the Administrator shall deem appropriate; (v) modify, amend, extend or renew outstanding Awards, or accept the surrender of outstanding Awards and substitute new Awards (provided, however, that, except as provided in Section 6 or 7(e) of the Plan, any modification that would materially adversely affect any outstanding Award shall not be made without the consent of the holder and no such modification, amendment or substitution that results in repricing the Award, within the meaning of the Nasdaq Marketplace Rule 5635(c) and IM-5635-1, or any successor provision, shall be made without prior stockholder approval); (vi) accelerate or otherwise change the time in which an Award may be exercised or becomes payable and to waive or accelerate the lapse, in whole or in part, of any restriction or condition with respect to such Award, including, but not limited to, any restriction or condition with respect to the vesting or exercisability of an Award following termination of any grantee's employment or other relationship with the Company; provided, however, that no such waiver or acceleration of lapse restrictions shall be made with respect to a performance-based stock award granted to an executive officer of the Company if such waiver or acceleration is inconsistent with Code section 162(m); (vii) establish objectives and conditions, if any, for earning Awards and determining whether Awards will be paid with respect to a performance period; (viii) for any purpose, including but not limited to, qualifying for preferred tax treatment under foreign tax laws or otherwise complying with the regulatory requirements of local or foreign jurisdictions, to establish, amend, modify, administer or terminate sub-plans, and prescribe, amend and rescind rules and regulations relating to such sub-plans; (ix) interpret and administer the Plan and any instrument or agreement relating to, or Award made under the Plan; (x) correct any defect or supply any omission or reconcile any inconsistency in the Plan or in any Award in the manner and to the extent it shall deem expedient to carry the Plan into effect; and (xi) make any other determination and take any other action that the Administrator deems necessary or desirable for the administration of the Plan. All decisions and determinations of the Administrator shall be final, conclusive and binding on the Company, the participants in the Plan and any and all interested parties.

The Administrator shall have full power and authority, in its sole and absolute discretion, to administer, construe and interpret the Plan, Grant Agreements and all other documents relevant to the Plan and Awards issued thereunder, to establish, amend, rescind and interpret such rules, regulations, agreements, guidelines and instruments for the administration of the Plan and for the conduct of its business as the Administrator deems necessary or advisable, and to correct any defect, supply any omission or reconcile any inconsistency in the Plan or in any Award in the manner and to the extent the Administrator shall deem it desirable to carry it into effect.

(c) *Non-Uniform Determinations*. The Administrator's determinations under the Plan (including without limitation, determinations of the persons to receive Awards, the form, amount and timing of such Awards, the terms and provisions of such Awards and the Grant Agreements evidencing such Awards) need not be uniform and may be made by the Administrator selectively among persons who receive, or are eligible to receive, Awards under the Plan, whether or not such persons are similarly situated.

(d) *Limited Liability.* To the maximum extent permitted by law, no member of the Administrator shall be liable for any action taken or decision made in good faith relating to the Plan or any Award thereunder.

(e) *Indemnification*. To the maximum extent permitted by law and by the Company's charter and bylaws, the members of the Administrator shall be indemnified by the Company in respect of all their activities under the Plan.

(f) *Effect of Administrator's Decision*. All actions taken and decisions and determinations made by the Administrator on all matters relating to the Plan pursuant to the powers vested in it hereunder shall be in the Administrator's sole and absolute discretion and shall be conclusive and binding on all parties concerned, including the Company, its stockholders, any participants in the Plan and any other employee, consultant, or director of the Company, and their respective successors in interest.

4. Shares Available for the Plan; Maximum Awards

(a) Subject to adjustments as provided in Section 7(e) of the Plan, the aggregate number of shares of Common Stock that may be issued with respect to Awards granted under the Plan is 1,245,399; provided, however, that no more than 1,000,000 shares of Common Stock may be issued in the form of Full-Value Awards, and no more than 600,000 shares of Common Stock may be issued pursuant to incentive stock options intended to qualify under Code section 422. If any Award, or portion of an Award, under the Plan expires or terminates unexercised, becomes unexercisable, is settled in cash without delivery of shares of Common Stock, or is forfeited or otherwise terminated, surrendered or canceled as to any shares, or if any shares of Common Stock are repurchased by or surrendered to the Company in connection with any Award (whether or not such surrendered shares were acquired pursuant to any Award), or if any shares are withheld by the Company, the shares subject to such Award and the repurchased, surrendered and withheld shares shall thereafter be available for further Awards under the Plan; provided, however, that any such shares that are surrendered to or repurchased or withheld by the Company in connection with any Award or that are otherwise forfeited after issuance shall not be available for purchase pursuant to incentive stock options intended to qualify under Code section 422.

(b) Subject to adjustments as provided in Section 7(e) of the Plan, the maximum number of shares of Common Stock subject to Awards of any combination that may be granted during any one fiscal year of the Company to any one individual under this Plan shall be limited to 750,000 shares. Such per-individual limit shall not be adjusted to effect a restoration of shares of Common Stock with respect to which the related Award is terminated, surrendered or canceled.

5. Participation

Participation in the Plan shall be open to all employees, officers, and directors of, and other individuals providing bona fide services to or for, the Company, or of any Affiliate of the Company, as may be selected by the Administrator from time to time. The Administrator may also grant Awards to individuals in connection with hiring, retention or otherwise, prior to the date the individual first performs services for the Company or an Affiliate, provided that such Awards shall not become vested or exercisable, and no shares shall be issued to such individual, prior to the date the individual first commences performance of such services.

6. Awards

The Administrator, in its sole discretion, establishes the terms of all Awards granted under the Plan. Awards may be granted individually or in tandem with other types of Awards, concurrently with or with respect to outstanding Awards. All Awards are subject to the terms and conditions provided in the Grant Agreement.

(a) *Stock Options.* The Administrator may from time to time grant to eligible participants Awards of incentive stock options as that term is defined in Code section 422 or nonstatutory stock options; provided, however, that Awards of incentive stock options shall be limited to employees of the Company or of any current or hereafter existing "*parent corporation*" or "*subsidiary corporation*," as defined in Code sections 424(e) and (f), respectively, of the Company and any other individuals who are eligible to receive incentive stock options under the provisions of Code section 422. Options must have an exercise price at least equal to Fair Market Value (110% of Fair Market Value for incentive stock options if the grantee is a 10% stockholder within the meaning of Code section 422) as of the date of grant and may not have a term in excess of ten years' duration (five years' duration for incentive stock options if the grantee is a 10% stockholder within the meaning of Code section 422). The Administrator shall not reduce the exercise price of an outstanding stock option, whether through amendment, cancellation or replacement of such stock option, unless such reduction is consistent with Code section 409A and other applicable law and is approved by the stockholders of the Company. No stock option shall be an incentive stock option unless so designated by the Administrator at the time of grant or in the Grant Agreement evidencing such stock option.

(b) *Stock Appreciation Rights.* The Administrator may from time to time grant to eligible participants Awards of Stock Appreciation Rights ("*SAR*"). An SAR entitles the grantee to receive, subject to the provisions of the Plan and the Grant Agreement, a payment having an aggregate value equal to the product of (i) the excess of (A) the Fair Market Value on the exercise date of one share of Common Stock over (B) the base price per share specified in the Grant Agreement, times (ii) the number of shares specified by the SAR, or portion thereof, which is exercised. The base price per share specified in the Grant Agreement shall not be less than the lower of the Fair Market Value on the grant date or the exercise price of any tandem stock option Award to which the SAR is related. The Administrator shall not reduce the exercise price of an outstanding SAR, whether through amendment, cancellation or replacement of such SAR, unless such reduction consistent with Code section 409A and other applicable law and is approved by the stockholders of the Company. No SAR shall have a term longer than ten years' duration. Payment by the Company of the amount receivable upon any exercise of an SAR may be made by the delivery of Common Stock or cash, or any combination of Common Stock and cash, as determined in the sole discretion of the Administrator. If upon settlement of the exercise of an SAR a grantee is to receive a portion of such payment in shares of Common Stock, the number of shares shall be determined by dividing such portion by the Fair Market Value of a share of Common Stock on the exercise date. No fractional shares shall be used for such payment and the Administrator shall determine whether cash shall be given in lieu of such fractional shares or whether such fractional shares shall be eliminated.

(c) *Stock Awards.*

(i) The Administrator may from time to time grant stock awards to eligible participants in such amounts, on such terms and conditions, and for such consideration, including no consideration or such minimum consideration as may be required by law, as it shall determine. A stock award may be denominated in Common Stock or other securities, stock-equivalent units or restricted stock units, securities or debentures convertible into Common Stock, or any combination of the foregoing and may be paid in Common Stock or other securities, in cash, or in a combination of Common Stock or other securities and cash, all as determined in the sole discretion of the Administrator.

(ii) The Administrator may grant stock awards in a manner constituting "qualified performance-based compensation" within the meaning of Code section 162(m). The grant of, or lapse of restrictions with respect to, such performance-based stock awards shall be based upon one or more Performance Measures and objective performance targets to be attained relative to those Performance Measures, all as determined by the Administrator. Performance targets may include minimum, maximum, intermediate and target levels of performance, with the size of the performance-based stock award or the lapse of restrictions with respect thereto based on the level attained. A performance target may be stated as an absolute value or as a value determined relative to prior performance, one or more indices, budget, one or more peer group companies, any other standard selected by the Administrator, or any combination thereof. The Administrator shall be authorized to make adjustments in the method of calculating attainment of Performance Measures and performance targets in recognition of: (A) extraordinary or non-recurring items; (B) changes in tax laws; (C) changes in generally accepted accounting principles or changes in accounting policies; (D) charges related to restructured or discontinued operations; (E) restatement of prior period financial results; and (F) any other unusual, nonrecurring gain or loss that is separately identified and quantified in the Company's financial statements; provided that the Administrator's decision as to whether such adjustments will be made with respect to any "covered employee", within the meaning of Code section 162(m), is determined when the performance targets are established for the applicable performance period. Notwithstanding the foregoing, the Administrator may, at its sole discretion, modify the performance results upon which Awards are based under the Plan to offset any unintended results arising from events not anticipated when the Performance Measures and performance targets were established; provided, that such modifications may be made with respect to an Award granted to any covered employee, within the meaning of Code section 162(m), only to the extent permitted by Code section 162(m) if the Award was intended to constitute "qualified performancebased compensation" within the meaning of Code section 162(m). Notwithstanding anything in the Plan to the contrary, the Administrator is not authorized to waive or accelerate the lapse of restrictions on a performance-based stock award granted to any covered employee, within the meaning of Code section 162(m), except upon death, disability or a change of ownership or control of the Company. In the event that a Change in Control occurs after a performance-based stock award has been granted but before completion of the applicable performance period, a pro rata portion of such Award shall become payable (or a pro rata portion of the lapse restrictions shall lapse, as applicable) as of the date of the Change in Control to the extent otherwise earned on the basis of achievement of the pro rata portion of the Performance Measures and performance targets relating to the portion of the performance period completed as of the date of the Change in Control.

7. Miscellaneous

(a) *Payment*. The Administrator shall determine the methods by which payments by any participant with respect to any Awards granted under the Plan shall be made, including, without limitation: (a) cash or check, (b) shares of Common Stock (including, in the case of payment of the exercise price of an Award, shares issuable pursuant to the exercise of the Award) or shares of Common Stock held for such period of time as may be required by the Administrator in order to avoid adverse accounting consequences, in each case, having a Fair Market Value on the date of delivery equal to the aggregate payments required, (c) delivery of a written or electronic notice that the participant has placed a market sell order with a broker with respect to shares then issuable upon exercise or vesting of an Award, and that the broker has been directed to pay a sufficient portion of the net proceeds of the sale to the Company in satisfaction of the aggregate payments required; provided, that payment of such proceeds is then made to the Company upon settlement of such sale, or (d) other form of legal consideration acceptable to the Administrator. The Administrator shall also determine the methods by which shares shall be delivered or deemed to be delivered to participants. Notwithstanding any other provision of the Plan to the contrary, no participant who is a director or an "executive officer" of the Company within the meaning of Section 13(k) of the Exchange Act shall be permitted to make payment with respect to any Awards granted under the Plan, or continue any extension of credit with respect to such payment with a loan from the Company or a loan arranged by the Company in violation of Section 13(k) of the Exchange Act.

(b) *Withholding of Taxes*. Grantees and holders of Awards shall pay to the Company or its Affiliate, or make provision satisfactory to the Administrator for payment of, any taxes required to be withheld in respect of Awards under the Plan no later than the date of the event creating the tax liability. The Company or its Affiliate may, to the extent permitted by law, deduct any such tax obligations from any payment of any kind otherwise due to the grantee or holder of an Award. In the event that payment to the Company or its Affiliate of such tax obligations is made in shares of Common Stock, such shares shall be valued at Fair Market Value on the applicable date for such purposes and shall not exceed in amount the minimum statutory tax withholding obligation.

(c) *Loans*. To the extent otherwise permitted by law, the Company or its Affiliate may make or guarantee loans to grantees to assist grantees in exercising Awards and satisfying any withholding tax obligations.

(d) *Transferability*. Except as otherwise determined by the Administrator, no Award granted under the Plan may be assigned or transferred, hypothecated or encumbered, in whole or in part, either directly or by operation of law or otherwise, including, but not limited to, by execution, levy, garnishment, attachment, pledge, bankruptcy or in any other manner, except transfer by will or by the laws of descent and distribution. All rights with respect to Awards granted under the Plan shall be exercisable during the participant's lifetime only by the participant or the participant's guardian or legal representative.

(e) *Adjustments for Corporate Transactions and Other Events*.

(i) *Stock Dividend, Stock Split and Reverse Stock Split.* In the event of a stock dividend of, or stock split or reverse stock split affecting, the Common Stock, (A) the maximum number of shares of such Common Stock as to which Awards may be granted under this Plan and the maximum number of shares with respect to which Awards may be granted during any one fiscal year of the Company to any individual, as provided in Section 4 of the Plan, and (B) the number of shares covered by and the exercise price and other terms of outstanding Awards, shall, without further action of the Board, be adjusted to reflect such event. The Administrator may make adjustments, in its discretion, to address the treatment of fractional shares and fractional cents that arise with respect to outstanding Awards as a result of the stock dividend, stock split or reverse stock split.

(ii) *Non-Change in Control Transactions.* Except with respect to the transactions set forth in Section 7(e)(i), in the event of any change affecting the Common Stock, the Company or its capitalization, by reason of a spin-off, split-up, dividend, recapitalization, merger, consolidation or share exchange, other than any such change that is part of a transaction resulting in a Change in Control of the Company, the Administrator, in its discretion and without the consent of the holders of the Awards, shall make (A) appropriate adjustments to the maximum number and kind of shares reserved for issuance or with respect to which Awards may be granted under the Plan, in the aggregate and with respect to any individual during any one fiscal year of the Company, as provided in Section 4 of the Plan; and (B) any adjustments in outstanding Awards, including but not limited to modifying the number, kind and price of securities subject to Awards.

(iii) *Change in Control Transactions.* In the event of any transaction resulting in a Change in Control of the Company, outstanding stock options and other Awards that are payable in or convertible into Common Stock under this Plan will terminate upon the effective time of such Change in Control unless provision is made in connection with the transaction for the continuation or assumption of such Awards by, or for the substitution of the equivalent awards, as determined in the sole discretion of the Administrator, of, the surviving or successor entity or a parent thereof. In the event of such termination, the holders of stock options and other Awards under the Plan will be permitted, immediately before the Change in Control, to exercise or convert all portions of such stock options or other Awards under the Plan that are then exercisable or convertible or which become exercisable or convertible upon or prior to the effective time of the Change in Control.

(iv) *Unusual or Non-recurring Events.* The Administrator is authorized to make, in its discretion and without the consent of holders of Awards, adjustments in the terms and conditions of, and the criteria included in, Awards in recognition of unusual or non-recurring events affecting the Company, or the financial statements of the Company or any Affiliate, or of changes in applicable laws, regulations, or accounting principles, whenever the Administrator determines that such adjustments are appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan.

(f) *Substitution of Awards in Mergers and Acquisitions.* Awards may be granted under the Plan from time to time in substitution for awards held by employees, officers, consultants or directors of entities who become or are about to become employees, officers, consultants or directors of the Company or an Affiliate as the result of a merger or consolidation of the employing entity with the Company or an Affiliate, or the acquisition by the Company or an Affiliate of the assets or stock of the employing entity. The terms and conditions of any substitute Awards so granted may vary from the terms and conditions set forth herein to the extent that the Administrator deems appropriate at the time of grant to conform the substitute Awards to the provisions of the awards for which they are substituted.

(g) *Termination, Amendment and Modification of the Plan*. The Board may terminate, amend or modify the Plan or any portion thereof at any time. Except as otherwise determined by the Board, termination of the Plan shall not affect the Administrator's ability to exercise the powers granted to it hereunder with respect to Awards granted under the Plan prior to the date of such termination.

(h) *No Stockholders Rights*. Except as otherwise provided herein, a participant shall have none of the rights of a stockholder with respect to shares of Common Stock covered by any Award until the participant becomes the record owner of such shares of Common Stock.

(i) *Issuance of Shares; Paperless Administration*. Notwithstanding any other provision of the Plan, unless otherwise determined by the Administrator or required by any applicable law, rule or regulation, the Company may choose to not deliver to any participant certificates evidencing shares issued in connection with any Award and instead record such shares in the books of the Company (or, as applicable, its transfer agent or stock plan administrator). In the event that the Company establishes, for itself or using the services of a third party, an automated system for the documentation, granting or exercise of Awards, such as a system using an internet website or interactive voice response, then the paperless documentation, granting or exercise of Awards by a participant may be permitted through the use of such an automated system.

(j) *Effect of Plan upon Other Compensation Plans*. The adoption of the Plan shall not affect any other compensation or incentive plans in effect for the Company or any subsidiary. Nothing in the Plan shall be construed to limit the right of the Company or any subsidiary: (a) to establish any other forms of incentives or compensation for employees, directors or other service providers of the Company or any subsidiary, or (b) to grant or assume options or other rights or awards otherwise than under the Plan in connection with any proper corporate purpose including without limitation, the grant or assumption of options in connection with the acquisition by purchase, lease, merger, consolidation or otherwise, of the business, stock or assets of any corporation, partnership, limited liability company, firm or association. No payment pursuant to the Plan shall be taken into account in determining any benefits under any pension, retirement, savings, profit sharing, group insurance, welfare or other benefit plan of the Company or any subsidiary except to the extent otherwise expressly provided in writing in such other plan or an agreement thereunder.

(k) *Non-Guarantee of Employment or Service*. Nothing in the Plan or in any Grant Agreement thereunder shall confer any right on an individual to continue in the service of the Company or shall interfere in any way with the right of the Company to terminate such service at any time with or without cause or notice and whether or not such termination results in (i) the failure of any Award to vest; (ii) the forfeiture of any unvested or vested portion of any Award; and/or (iii) any other adverse effect on the individual's interests under the Plan.

(l) *Compliance with Securities Laws; Listing and Registration*. If at any time the Administrator determines that the delivery of Common Stock under the Plan is or may be unlawful under the laws of any applicable jurisdiction, or Federal, state or foreign securities laws, the right to exercise an Award or receive shares of Common Stock pursuant to an Award shall be suspended until the Administrator determines that such delivery is lawful. If at any time the Administrator determines that the delivery of Common Stock under the Plan is or may violate the rules of the national exchange on which the shares are then listed for trade, the right to exercise an Award or receive shares of Common Stock pursuant to an Award shall be suspended until the Administrator determines that such delivery would not violate such rules. The Company shall have no obligation to effect any registration or qualification of the Common Stock under Federal, state or foreign laws.

The Company may require that a grantee, as a condition to exercise of an Award, and as a condition to the delivery of any share certificate, make such written representations (including representations to the effect that such person will not dispose of the Common Stock so acquired in violation of Federal, state or foreign securities laws) and furnish such information as may, in the opinion of counsel for the Company, be appropriate to permit the Company to issue the Common Stock in compliance with applicable Federal, state or foreign securities laws. The stock certificates for any shares of Common Stock issued pursuant to this Plan may bear a legend restricting transferability of the shares of Common Stock unless such shares are registered or an exemption from registration is available under the Securities Act of 1933, as amended, and applicable state or foreign securities laws.

(m) *No Trust or Fund Created*. Neither the Plan nor any Award shall create or be construed to create a trust or separate fund of any kind or a fiduciary relationship between the Company and a grantee or any other person. To the extent that any grantee or other person acquires a right to receive payments from the Company pursuant to an Award, such right shall be no greater than the right of any unsecured general creditor of the Company.

(n) *Governing Law*. The validity, construction and effect of the Plan, of Grant Agreements entered into pursuant to the Plan, and of any rules, regulations, determinations or decisions made by the Administrator relating to the Plan or such Grant Agreements, and the rights of any and all persons having or claiming to have any interest therein or thereunder, shall be determined exclusively in accordance with applicable federal laws and the laws of the State of Delaware, without regard to its conflict of laws principles.

(o) *409A Savings Clause*. The Plan and all Awards granted hereunder are intended to comply with, or otherwise be exempt from, Code section 409A. The Plan and all Awards granted under the Plan shall be administered, interpreted, and construed in a manner consistent with Code section 409A to the extent necessary to avoid the imposition of additional taxes under Code section 409A(a)(1)(B). Should any provision of the Plan, any Award Agreement, or any other agreement or arrangement contemplated by the Plan be found not to comply with, or otherwise be exempt from, the provisions of Code section 409A, such provision shall be modified and given effect (retroactively if necessary), in the sole discretion of the Administrator, and without the consent of the holder of the Award, in such manner as the Administrator determines to be necessary or appropriate to comply with, or to effectuate an exemption from, Code section 409A. Notwithstanding anything to the contrary in the Plan, to the extent required to avoid accelerated taxation and tax penalties under section 409A of the Code, amounts that would otherwise be payable and benefits that would otherwise be provided pursuant to the Plan during the six (6) month period immediately following the participant's separation from service shall instead be paid on the first payroll date after the six-month anniversary of the participant's separation from service (or the participant's death, if earlier). Notwithstanding anything in the Plan to the contrary, in no event shall the Administrator exercise its discretion to accelerate the payment or settlement of an Award where such payment or settlement constitutes deferred compensation within the meaning of Code section 409A unless, and solely to the extent that, such accelerated payment or settlement is permissible under Treasury Regulation section 1.409A-3(j)(4) or any successor provision.

(p) *Participants Subject to Taxation Outside the United States.* With respect to participants who are believed by the Administrator to be subject to taxation in countries other than the United States, the Administrator may make grants on such terms and conditions, consistent with the Plan, as the Administrator deems appropriate to comply with the laws of the applicable countries, and the Administrator may create such procedures, addenda and subplans and make such modifications as may be necessary or advisable to comply with such laws. The Board may amend the Plan in such manner as may be necessary to enable the Plan to achieve its stated purposes in any jurisdiction outside the United States in a tax-efficient manner and in compliance with local rules and regulations. Furthermore, if any provision of the Plan or any Award is or becomes or is deemed to be invalid, illegal or unenforceable in any jurisdiction, or as to any person or Award, or would disqualify the Plan or any Award under any law deemed applicable by the Administrator, such provision shall be construed or deemed amended to conform to applicable laws, or if it cannot be so construed or deemed amended without, in the determination of the Administrator, materially altering the intent of the Plan or the Award, such provision shall be stricken as to such jurisdiction, person or Award, and the remainder of the Plan and any such Award shall remain in full force and effect.

(q) *Effective Date; Termination Date*. The Plan is effective as of the date on which the Plan is adopted by the Board, subject to approval of the stockholders within twelve months before or after such date. No Award shall be granted under the Plan after the close of business on the day immediately preceding the tenth anniversary of the effective date of the Plan, or if earlier, the tenth anniversary of the date this Plan is approved by the stockholders. Subject to other applicable provisions of the Plan, all Awards made under the Plan prior to such termination of the Plan shall remain in effect until such Awards have been satisfied or terminated in accordance with the Plan and the terms of such Awards.

PLAN APPROVAL

Date Approved by the Board: June 17, 2014

Date Approved by the Stockholders: June 17, 2014

Exhibit 10.4

AMENDED AND RESTATED EMPLOYMENT AGREEMENT

This Amended and Restated Employment Agreement (this "Agreement") is entered into effective as of June 17, 2014 (the "Effective Date") between Signal Genetics, Inc. (the "Company" or "SG") and Samuel D. Riccitelli (the "Executive"). (Executive and the Company are referenced collectively herein as the "Parties.")

RECITALS

WHEREAS, the Executive entered into an employment agreement with Signal Genetics LLC, a Delaware limited liability company ("SG LLC"), on October 13, 2012 (the "Prior Employment Agreement");

WHEREAS, on June 17, 2014, SG LLC was converted into the Company pursuant to Section 265 of the Delaware General Corporation Law (the "Conversion");

WHEREAS, SG desires to retain Executive as President and Chief Executive Officer to manage and oversee certain business, financial and administrative aspects of the Company, and Executive desires to be employed by SG, in accordance with the terms and conditions of this Agreement; and

WHEREAS, the Parties desire to amend and restate the Prior Employment Agreement to, among other things, acknowledge the Conversion, and set forth the terms and conditions upon which Executive will serve the Company.

NOW, THEREFORE, in consideration of the above recitals and the mutual promises contained in this Agreement, the Parties agree as follows:

ARTICLE I.

EMPLOYMENT AND DUTIES OF EXECUTIVE

1.1 Employment. SG hereby employs Executive as President and Chief Executive Officer ("CEO") and Executive accepts employment as President and CEO of SG in accordance with the terms and conditions, and for the consideration, provided in this Agreement.

1.2 Termination of Prior Employment Agreement. It is the intention of the Parties and the Parties agree that Executive's terms and conditions of employment shall be governed exclusively by this Agreement which shall supersede his Prior Employment Agreement. To the extent that Executive might have any valid right or claim to severance benefits or compensation under the terms of the Prior Employment Agreement, including, without limitation the incentive units that were granted to Executive under the Prior Employment Agreement, Executive is willingly waiving those rights in exchange for the consideration offered by SG in this Agreement.

1.3 Employment Period. The term of this Agreement shall commence on the Effective Date and shall continue until October 31, 2015 (the "Initial Term"), subject to the termination provisions set forth in this Agreement. On each anniversary of the Effective Date after the Initial Term, this Agreement and Executive's employment shall be deemed to have been automatically extended for an additional one (1) year term or such other period as mutually agreed to between the Parties unless either Party shall give written notice of non-extension to the other Party at least thirty (30) days before such anniversary date, or unless sooner terminated as provided in this Agreement. Executive's total term of employment with the Company under this Agreement during the Initial Term and any extended term is collectively defined and referred to as the "Employment Period."

1.4 Duties of CEO.

1.4.1 During the Employment Period, Executive (i) shall have the title of CEO, (ii) shall devote his full business time and attention and expend his best efforts, energies and skills on a full-time basis to the business of the Company, and shall not engage in any other activity that would materially interfere with the performance of his duties under this Agreement (provided that Executive is permitted to continue to serve on the board of directors of Exagen Diagnostics, Inc., as well as any other board of directors to the extent that doing so does not create any conflict of interest with Executive's obligations or duties under this Agreement, subject to approval of the Board of Directors of the Company, such approval not to be unreasonably withheld, or to engage in endeavors related to the community, his faith, personal finances and effects and other charitable functions that do not materially interfere with the performance of his duties hereunder), and (iii) shall perform such duties, and comply with all reasonable directions and instructions of the Board of Directors.

1.4.2 During the Employment Period, (i) Executive will report only to the Board of Directors, (ii) Executive will be the Company's most senior and highest-ranking executive, and (iii) all other Company senior executives and employees will report to Executive.

1.4.3 In performing Executive's duties hereunder, Executive shall in all material respects (i) abide by and comply with all applicable laws, statutes, orders, rules, regulations, policies or guidelines promulgated, or judgments, decisions or orders entered, by any court, arbitrator tribunal, administrative agency, or commission or other governmental or regulatory body, agency or instrumentality or authority relating to the Company, (ii) abide by and adhere to the Company's general policies and procedures as may be adopted from time to time and (iii) conduct himself with respect to the Company with the prudence, care, dedication and skill as would be manifested by one in the operation and management of his own assets and properties and in this regard shall owe a fiduciary duty of prudence and dedication and care to the Company.

1.5 Principal Employment.

1.5.1 Executive agrees that his position as CEO of the Company shall be his principal employment and that he will not subordinate that position to any other employment.

1.5.2 Executive agrees that, during his employment with the Company, he will not engage in any matter whatsoever in a business or other endeavor that would or might reasonably interfere with his duties or that is competitive with or similar in nature to the business of the Company. Nonetheless, Executive shall have the right to own up to 3% of the outstanding shares of a publicly held company if such shares are actively traded on a national stock exchange and he is not involved in the management of such company. Specifically excluded from the restrictions set forth in this Section, and other provisions of this Agreement, is Executive's ability (as expressly permitted by the Company hereby) to continue to serve on the board of directors of Exagen Diagnostics, Inc.

ARTICLE II.

COMPENSATION AND BENEFITS

2.1 Compensation. For all services rendered and required to be rendered by, covenants of and restrictions in respect to, Executive under this Agreement, SG shall compensate Executive as follows:

A. CEO Base Salary. The Company shall pay to Executive during and with respect to the Employment Period, and Executive agrees to accept, annual base salary ("Base Salary") equal to $450,000, payable on a semi-monthly basis in accordance with the standard payroll practices of the Company. Base salary will be re-evaluated on an annual basis and subject to a merit increase, pursuant to the normal practices of the Company.

B. Incentive Compensation. During the Employment Period, Executive shall participate in any annual performance-based incentive compensation programs that are established by the Company, on the terms established from time to time by the Compensation Committee or the Board of Directors of the Company.

C. Equity Compensation. During the Employment Period, Executive shall participate in any long-term incentive compensation programs that are established by the Company, on the terms established from time to time by the Compensation Committee or the Board of Directors of the Company.

2.2 Benefits. Commencing on the Effective Date, Executive will be entitled to participate in all of the Company's benefit plans, as applicable.

A. Paid Time Off. For each calendar year during the Employment Period, Executive shall be entitled to paid time off ("PTO") at the rate consistent with the SG accrual rate for paid time off for SG senior executives. As such, Executive shall be entitled to 4 weeks of paid vacation time (which equates to 20 days / 160 hours per year), as well as sick leave and personal leave pursuant to the SG policies applicable to senior executives. Such PTO will be accrued on a pro-rata basis during the initial calendar year of the Employment Period and will otherwise be subject to the Company's policies and procedures , as in effect from time to time.

B. General Benefits. Executive shall be entitled to receive the same employee benefits as are provided by the Company to other executive employees. Such benefits shall include group health insurance, group life insurance, and disability insurance coverage, and also may include such items as retirement plans and similar plans in effect from time to time. Attached as Exhibit A is a description of applicable employee benefits. Executive's participation in the foregoing plans, and applicable perquisites, will be at the highest level and on terms no less favorable than afforded to other senior executives of the Company commensurate with Executive's level.

C. Civic Affairs, Service Clubs and Social Functions. The Parties agree that Executive's participation in civic affairs, service clubs, professional organizations, and social functions is appropriate for the proper professional administration of the Company. The Executive may participate in such affairs, professional organizations, clubs and functions as the Executive determines are appropriate to enhance the operations and professional stature of the Company. SG shall reimburse Executive for reasonable expenses incurred while representing the Company pursuant to this Agreement.

2.3 Reimbursement of Expenses. During the Employment Period, Executive will be reimbursed for all reasonable business expenses, including travel and entertainment expenses, incurred in the performance of his duties, responsibilities, or services performed for the Company, upon presentation by Executive of the documentation, expense statements, vouchers, and such other supporting information as SG may request or as may be consistent with SG practices. Executive will comply with the Company's policies in incurring and seeking reimbursement for such expenses.

ARTICLE III.

TERMINATION

3.1 Termination. In addition to the expiration of the Employment Period, this Agreement may be terminated in the following circumstances:

A. Termination For Cause. SG may, at any time during the Employment Period by written notice to Executive (the "Termination Notice"), terminate the Employment Period for uncured "Cause" effective immediately. The Termination Notice shall specify the reason for termination. In such an event, Executive's sole remedy shall be to collect all unpaid Base Salary, all accrued PTO and all unreimbursed expenses payable for all periods through the effective date of termination, as well as any amount arising from Executive's participation in, or benefits under, any employee benefit plan, program or arrangement, payable in accordance with the terms of such SG employee benefit plans, programs or arrangements. Executive shall not be entitled to earn or accrue any compensation or other amount from the Company after the effective date of termination. The foregoing amounts shall be paid on the date of termination.

For purposes hereof, "Cause" as utilized herein shall mean:

(i) Expiration of the term of this Employment Agreement;

(ii) A material breach by Executive of his fiduciary duty to SG that results in material harm to the Company;

(iii) A material breach by Executive of the terms of this Employment Agreement or any other agreement between Executive and SG, which remains uncured for a period of 30 days following the receipt of written notice specifying the nature of the breach;

(iv) The willful commission by Executive of any act of embezzlement, fraud, larceny or theft on or from SG;

(v) Substantial and continuing willful neglect or inattention by Executive of the duties of his employment, refusal to perform the lawful and reasonable directives of the Board of Directors or the willful misconduct or gross negligence of Executive in connection with the performance of such duties which remain uncured for a period of 30 days following the receipt of written notice specifying the nature of the breach:

(vi) The willful commission by Executive of any crime involving moral turpitude or a felony; and

(vii) Executive's performance or omission of any act which, in the judgment of the Board of Directors, if known to the customers, clients, stockholders or any regulators of SG, would have a material adverse impact on the business of SG.

B. Termination Without Cause. The Company may terminate this Agreement at any time for any reason, by delivering a written notice to Executive, effective thirty (30) days after Executive receives such notice in accordance with the terms hereof. In such an event, Executive's sole remedy shall be:

(1) to collect all unpaid Base Salary, accrued annual bonus or incentive compensation (including any unpaid, accrued annual bonus or incentive compensation from the immediately preceding year), accrued PTO, and all unreimbursed expenses payable for all periods through the effective date of termination (the foregoing amounts shall be paid on the date of termination of Executive's employment); plus

(2) Executive shall receive, in addition to the amounts specified above, the severance payments outlined below (the "Severance Payments"). Executive shall not be required to mitigate the amount of any Severance Payments received by seeking other employment during the term of the severance period. However, should Executive obtain other employment during the term of the severance period, SG shall pay Executive, for the remaining length of the severance period, only the difference between his new salary and his Base Salary (as in effect at the time of termination), if the new salary is less than his Base Salary. For the avoidance of doubt, the Company shall not be obligated to make any Severance Payments thereafter if the new salary is greater than his applicable Base Salary.

The Severance Payments shall be calculated as follows:

(a) should the termination occur during the one-year period immediately following the closing of the Company's initial public offering, Executive shall continue to receive his then-current Base Salary for a period of six (6) months; and

(b) should the termination occur at any time during the Employment Period after the one-year period immediately following the closing of the Company's initial public offering, Executive shall continue to receive his then-current Base Salary for a period of twelve (12) months.

The Severance Payment (less all applicable withholdings) will be paid in equal monthly installments over the applicable period immediately following termination of Executive's employment, as applicable. The Company shall reimburse Executive for premiums for COBRA coverage for Executive (and to the extent he has family coverage, his family), provided that Executive elects such coverage, during the applicable period when Executive is receiving Severance Payments. Should Executive obtain other employment during such period of COBRA coverage, and Executive is provided the opportunity to obtain comparable health insurance benefits to those benefits provided by SG, then the Company shall no longer reimburse Executive for premiums for COBRA coverage for Executive (and to the extent he has family coverage, his family), from the date Executive may obtain such health insurance benefits, whether or not Executive elects such coverage. The Company shall be entitled to discontinue the Severance Payments in the event that Executive violates any of the provisions of Sections 4.9, 4.10 or 4.11.

C. Termination After Disability or Death.

(1) In the event Executive becomes totally disabled or disabled such that he is rendered unable to perform substantially all of his usual duties for the Company in a manner consistent with his performance prior to such disability, and if such disability shall persist for a continuous period of one hundred eighty (180) days or more, or an aggregate period in excess of one hundred eighty (180) days in any one fiscal year, the Company shall have the right at any time after the end of such period during continuance of Executive's disability by the delivery of not less than 30 days' prior written notice to Executive to terminate Executive's employment under this Agreement whereupon the applicable provisions of this Section below shall apply.

(2) For purposes of this Agreement, if Executive and the Company disagree as to whether Executive is totally disabled, or disabled such that he is rendered unable to perform substantially all of his usual duties for the Company as set forth above, or as to the date at which time such total disability began, the decision of a licensed medical practitioner, mutually agreed upon by the Parties, shall be binding as to both questions. If the Parties cannot agree as to the identity of the licensed medical practitioner, Executive shall select a licensed medical practitioner of his choice and the Company shall select a licensed medical practitioner of its choice. The two licensed medical practitioners so selected shall select a third licensed medical practitioner, which third individual shall resolve either or both of the questions referred to above and which resolution shall be binding upon the Parties. The costs of such a third licensed medical practitioner shall be borne by the Company.

(3) If Executive's employment with the Company is terminated on account of Executive's disability as provided for in this Section above or on account of Executive's death, then Executive (or Executive's estate or personal representative, as applicable) shall be entitled only to receive, and Company shall pay to Executive (or Executive's estate or personal representative, as applicable) the following amounts:

(a) all unpaid Base Salary, accrued annual bonus or incentive compensation (including any unpaid, accrued annual bonus or incentive compensation from the immediately preceding year), accrued PTO, and all unreimbursed expenses payable for all periods through the effective date of termination (the foregoing amounts shall be paid on the date of termination of Executive's employment); plus

(b) in the case of disability only, Executive shall receive, in addition to the amounts specified above, for a period of six months ("Continuation Period"), a series of monthly payments equal to the then-current monthly Base Salary payments he received during his employment (the "Continuation Payments"). Executive shall be entitled to the Continuation Payments if and only if he does not receive any payments as a result of the short-term and long-term disability insurance benefits that the Company obtains on his behalf, pursuant to Section 2.2(B) of this Agreement ("Insurance Payments").

The Continuation Payments will be paid in equal installments over the applicable period immediately following termination of Executive's employment. However, should Executive be provided such Insurance Payments, then SG shall pay Executive, during the Continuation Period, only the difference between the Insurance Payments provided to Executive and his Base Salary, if the payments provided are less than his Base Salary. In any event, Executive is not entitled to receive more than the full amount of his Base Salary with SG for the time period covered by the Continuation Period. Accordingly, if Executive obtains such Insurance Payments for any portion of the Continuation Period, then Executive shall inform SG of the amounts of such Insurance Payments so that SG may take an offset of such amounts from any future Continuation Payments, if any. Moreover, if Executive obtains such Insurance Payments for any portion of the Continuation Period, at any time after SG pays Continuation Payments to Executive, Executive shall make payment to SG of an amount equal to the amount of received Insurance Payments to reimburse SG for such Continuation Payments it previously made or otherwise inform SG of such Insurance Payments so that SG may take an offset of such amounts from any future Continuation Payments, if any.

D. Termination by Executive for "Good Reason". Executive shall have the right to terminate his employment under this Agreement, and collect all unpaid Base Salary, accrued annual bonus or incentive compensation (including any such unpaid, accrued compensation from the immediately preceding year), accrued PTO and all unreimbursed expenses payable for all periods through the effective date of termination (the foregoing amounts shall be paid on the date of termination of Executive's employment); plus receive the Severance Payment and the applicable payments for COBRA coverage, as set forth in Section 3.1(B)(3) above, by the delivery of written notice to the Company within 30 days after the initial existence of any of the events herein below defined as Good Reason.

For purposes hereof, “Good Reason” as utilized herein shall mean:

(i) the Company has materially breached this Agreement and the Company has failed to cure or remedy such breach after 30-days written notice from Executive;

(ii) there has occurred any material and substantial diminution or reduction in duties, Base Salary, title, health care coverage (but only if such diminution is disproportionate to a diminution in health care coverage applicable to other employees of the Company), authority or responsibilities of Executive, whether in scope or nature, and the Company has failed to cure or remedy such breach after 30-days written notice from Executive; and

(iii) the Company has required that Executive perform any act or refrain from performing any act that would be in violation of applicable law.

Notwithstanding anything to the contrary herein, Executive must resign within thirty (30) days after expiration of the 30-day period following written notice without cure or remedy by the Company for such resignation to constitute a Termination for Good Reason.

E. Termination by Executive Without “Good Reason.” Executive shall have the right to terminate his employment under this Agreement at any time for any reason. However, should Executive terminate his employment with the Company for any reason other than for Good Reason, as defined in Section 3.1(D) above, Executive shall be entitled to collect from the Company only all unpaid Base Salary, all accrued PTO and all unreimbursed expenses payable for all periods through the effective date of termination and Executive shall not be entitled to any compensation or other amount from the Company after the effective date of termination. The foregoing amounts shall be paid on the date of termination.

Under such circumstances, Executive may terminate this Agreement, only by delivering a written notice to the Company, effective no less than 45 days after the Company receives such notice in accordance with the terms hereof.

ARTICLE IV.

MISCELLANEOUS PROVISIONS

4.1 Notice. All notices, requests, demands, consents, and other communications required or permitted to be given or made hereunder shall be in writing and shall be deemed to have been duly given and received, (i) if delivered by hand, the day it is so delivered, (ii) if mailed via the United States mail, certified or registered first class mail, postage prepaid, return receipt requested, five business days after it is mailed, or (iii) if sent by a nationally recognized overnight courier for next business day delivery, the business day after it is sent, to the Party to whom the same is so given or made, as follows: (a) to the Company, at its administrative offices and (b) to Executive, at the address maintained on the personnel records of the Company. Either Party may change the address to which notice is required to be sent by providing notice of the change of address in accordance with this Agreement.

4.2 Headings. All descriptive headings in this Agreement are inserted for convenience only and shall be disregarded in construing or applying any provision of this Agreement.

4.3 Counterparts. This Agreement may be executed in counterparts (including via e-mail with scan attachment or by facsimile transmission), and when each Party has signed and delivered at least one such counterpart, each counterpart shall be deemed an original, and, when taken together with other signed counterparts, shall constitute one Agreement, which shall be binding upon and effective as to all Parties.

4.4 Severability. In the event that any term or provision of this Agreement, or part thereof, is held to be invalid, such invalidation shall not affect the validity of the remainder of this Agreement. Further, the invalid provision shall be modified by the minimum amount legally required to make the provision valid and enforceable and to carry out the purposes of this Agreement. Moreover, the remainder of such provision and this Agreement, as the case may be, shall nevertheless remain in full force and effect.

4.5 Entire Agreement. This Agreement contains the entire agreement and understanding among and between the Parties with respect to the subject matter hereof, and supersedes any prior agreement and understanding among them with respect to the subject matter of this Agreement. Except as otherwise provided herein, this Agreement cannot be changed or terminated except by an instrument in writing signed by the Parties hereto. Any oral representations, modifications or amendments concerning this Agreement shall be of no force or effect unless contained in a subsequent written modification signed by the Executive and a duly authorized representative of the Company.

4.6 Personal Services Contract. This contract is a personal services contract and Executive may not assign any portion of his responsibilities under this Agreement. However, Executive shall have the right, after consultation with the Board of Directors, to reasonably delegate appropriate administrative duties to any person who is an employee of the Company.

4.7 Binding on Successors. This Agreement shall be binding upon, and inure to the benefit of, each Party's successors, transferees, heirs and assigns, only to the extent that such is permitted by this Agreement. It shall be binding on the Company and its officers, directors, and employees and shall not be affected by any change of name, change of geographical location, change of form, or acquisition by or merger with any other entity.

4.8 Indemnification. The Company recognizes that the activities within the scope of Executive's employment create the potential in some jurisdictions of civil or even criminal actions being brought against Executive. To the fullest extent provided by applicable Delaware law and the Company's organizational and controlling documents, and consistent with any indemnification provided to other Company executive employees under any applicable insurance policies, including its professional liability coverage for directors and officers and for acts and omissions relating to employees' administrative duties, the Company shall indemnify, defend, protect and hold harmless Executive, from and against all claims, demands, causes of action, actions, suits, costs, damages, penalties, fines, liabilities, losses and expenses, whether civil or criminal, including, without limitation, reasonable attorneys' fees and expenses, arising out of or resulting from the performance of Executive's duties within the course and scope of Executive's employment with the Company.

4.9 Confidentiality; Disclosure of Information.

(a) Executive recognizes and acknowledges that he will have access to Confidential Information (as defined below) relating to the business or interests of the Company or of persons with whom the Company may have business relationships. Except as permitted herein or as may be approved by the Company from time to time, Executive will not during the Employment Period or for a period of 12 months thereafter, use or disclose to any other person or entity, any Confidential Information of the Company (except as required by applicable law or in connection with performance of Executive's duties and responsibilities hereunder or to Executive's legal and financial advisors so long as such advisors agree to be bound by the terms and conditions of this Paragraph 4.9(a)). Executive may disclose the existence of the obligations under this Paragraph 4.9(a) to future employers. If Executive is requested or becomes legally compelled to disclose any of the Confidential Information, he, if permitted by applicable law, will give prompt notice of such request or legal compulsion to the Company. The Company may waive compliance with this Paragraph 4.9(a) or will provide Executive with legal counsel at no cost to Executive to seek an appropriate remedy; provided however Executive may disclose any Confidential Information in the event notwithstanding all such efforts of the Company and such legal counsel if compelled by court order to do so.

The term "Confidential Information" shall mean information relating to the Company's business affairs, proprietary technology, trade secrets, patented processes, research and development data, know-how, market studies and forecasts, competitive analyses, pricing policies, executive lists, employment agreements (other than this Employment Agreement), personnel policies (including compensation paid to employees and consultants), the substance of agreements with patients, customers, suppliers, and others, marketing arrangements, patient lists, customer lists, commercial arrangements, or any other information relating to the Company's business which is treated as confidential or proprietary by the Company in accordance with its policies. Notwithstanding the immediately preceding sentence, the provisions of this Paragraph 4.9(a) shall not apply to any information that: (1) is in the public domain; (2) is or becomes available to the public other than as a result of a disclosure by Executive in violation of this Paragraph 4.9(a); (3) was available to Executive on a non-confidential basis prior to the date of this Employment Agreement; or (4) becomes available to Executive on a non-confidential basis from a source other than the Company (other than through a known breach of a confidentiality obligation). This obligation shall continue until such Confidential Information becomes publicly available, other than pursuant to a breach of this Paragraph 4.9(a) by the Executive, regardless of whether the Executive continues to be employed by the Company.

(b) It is further agreed and understood by and between the Parties to this Agreement that all "Company Materials," which include, but are not limited to, computers, computer software, computer disks, tapes, printouts, source, HTML and other codes, flowcharts, schematics, designs, graphics, drawings, photographs, charts, graphs, notebooks, patient lists, customer lists, sound recordings, other tangible or intangible manifestation of content, and all other documents whether printed, typewritten, handwritten, electronic, or stored on computer disks, tapes, hard drives, or any other tangible medium, as well as samples, prototypes, models, products and the like shall be the exclusive property of the Company and, upon termination of Executive's employment with the Company, and/or upon the written request of the Company, all Company Materials, including copies thereof, as well as all other property of the Company then in Executive's possession or control, shall be returned to and left with the Company.

4.10 Intellectual Property: Definition. Intellectual Property means any of the following that are conceived of, developed, reduced to practice, created, modified, or improved by Executive, either solely or with others, in whole or in part, in the course of, or as a result of, the Executive's employment by the Company in any capacity, whether at the Company's place of business or otherwise, and whether on the Company's time or on the Executive's own time: (i) writings (including notes, reports, manuals and instructions), software, source code, algorithms, works and copyrightable subject matter and rights, title and interest in copyrights and copyright registrations, (ii) rights, title and interest in know-how, technical information, processes, practices and systems, whether or not protectable by patent, copyright or trade secret law, (iii) trademarks, trade names, service marks, emblems, logos, symbols and insignia and rights with respect thereto, including registrations and registration rights, (iv) all developments, including trade secrets of any kind, discoveries, improvements, and ideas directly relating to or useable in the Company business and (v) licenses granted by third parties of rights to use any of the foregoing.

(a) Intellectual Property shall be the exclusive property of the Company, and Executive shall have no right, title, or interest in, or to, the Intellectual Property. The Company shall have the sole and exclusive right, title, and interest in, and to, the Intellectual Property, which right shall continue notwithstanding the cessation of Executive's employment. Executive also hereby irrevocably waives any "moral rights" that Executive may have in the Intellectual Property, and confirms that the Company shall have the right, in addition to the other rights granted hereunder and notwithstanding the termination of Executive's employment for any reason, to make or have made, and own, enhancements, derivative works, and other modifications to any part of the Intellectual Property.

(b) Executive hereby assigns to the Company any right, title, and interest that Executive may have in, and to, the Intellectual Property in any patent, copyright, industrial design, trademark registration, and any other similar right pertaining to the Intellectual Property which Executive may have.

(c) Executive acknowledges that the assignments in (b) above are undertaken in part as a contingency against the possibility that any Intellectual Property, by operation of law, may not be considered a work made for hire by the Executive for the Company. The Company and its successors and assigns, shall have the right to obtain and hold in their own name all copyright registrations, patents, and other evidence of rights that may be available for the Intellectual Property and/or any portion thereof. Executive further acknowledges that all United States copyrights and all other intellectual property rights in the Intellectual Property (including any and all patents that may issue with respect thereto) shall be exclusively owned by the Company and shall be considered "works made for hire," as such term is defined in the United States Copyright Act, by Executive for the Company.

(d) Executive hereby covenants and binds Executive and Executive's successors, assigns and legal representatives to cooperate fully and promptly with the Company and its designees, successors, and assigns, at the Company's reasonable expense, and to do all acts necessary or requested by the Company and its designee, successors, and assigns, to secure, maintain, enforce, and defend the Company's rights in the Intellectual Property. Without limitation to the foregoing, Executive shall execute on demand, and bind Executive and Executive's successors, assigns and legal representatives, whether during Executive's employment or at any time following the cessation of Executive's employment, to any applications, transfers, assignments, and other documents as the Company may consider necessary for the purpose of: (i) obtaining, maintaining, vesting in, or assigning to, the Company absolute title to, (ii) applying for, prosecuting, obtaining, or protecting, or (iii) maintaining, enforcing, and/or defending the Company's rights in, any patent, copyright, industrial design, trademark registration, or any other right pertaining to the Intellectual Property in any countries in the world. Executive further agrees, and binds Executive and Executive's successors, assigns and legal representatives, to cooperate fully and assist the Company in every way possible in the application for, or prosecution of, such rights pertaining to the Intellectual Property and not developed during Executive's employment with the Company.

(e) Executive shall promptly disclose to the Company any patent application filed within one (1) year after termination of Executive's employment with the Company. Executive shall have the burden of proving that any invention that relates, or pertains, to the Company's business, and which is conceived less than one (1) year after the effective date of the termination of Executive's employment relationship, was in fact made after such termination and not developed during Executive's employment with the Company. Executive agrees that, during his employment with the Company, he will disclose to the Company all ideas, proposals, and plans, invented or developed by him, which relate to the business of the Company and its subsidiaries.

4.11 Non-Competition and Non-Solicitation. Executive acknowledges that the Company has invested substantial time, money and resources in the development and retention of its Confidential Information (including trade secrets), customers, patients, accounts and business partners, and further acknowledges that, during the course of Executive's employment with the Company, Executive will have access to the Company's Confidential Information (including trade secrets), and will be introduced to existing and prospective customers and patients that are being targeted, vendors, accounts and business partners of the Company. Executive acknowledges and agrees that any and all "goodwill" associated with any existing or prospective customer or patient that is being targeted, vendor, account or business partner belongs exclusively to the Company, including, but not limited to, any goodwill created as a result of direct or indirect contacts or relationships between Executive and any existing or prospective customers or patients that are being targeted, vendors, accounts or business partners. Additionally, the Parties acknowledge and agree that Executive possesses skills that are special, unique or extraordinary and that the value of the Company depends upon his use of such skills on its behalf. Executive acknowledges that as a result of the foregoing the restrictions contained herein and elsewhere in this Agreement are reasonably necessary to protect the Company from unfair competition by the Executive.

In recognition of this, Executive covenants and agrees that:

(a) During Executive's employment with the Company and for one year after the termination of Executive's employment for any reason, Executive shall not be employed by, or render any services to, any person, firm or corporation engaged in any business which is directly or indirectly in competition with the Company anywhere in the world where the Company performs services for its clients ("Competitive Business"), (ii) engage in any Competitive Business for his or its own account; (iii) be associated with or interested in any Competitive Business (whether as an executive, agent, servant, owner, partner, consultant, independent contractor, representative, stock or equity holder, lender or in any other capacity whatsoever). Specifically excluded from the restrictions set forth in this Section, and other provisions of this Agreement, is Executive's ability (as expressly permitted by the Company hereby) to continue to serve on the board of directors of Exagen Diagnostics, Inc. However, the non-compete aspects of this Section 4.11(a) will remain in effect only during the applicable time period when Executive is receiving a Severance Payment. As such, the non-compete aspects of this Section 4.11(a) shall not apply to any period that follows the cessation of Severance Payments to Executive. For the avoidance of doubt the non-solicitation provisions of Sections 4.11(b) and (c) are in effect and shall apply for the specified time periods irrespective of whether Executive is receiving a Severance Payment.

(b) During Executive's employment with the Company and for one year thereafter, Executive may not directly or indirectly induce, attempt to induce, solicit, attempt to solicit or encourage any employee, consultant, or contractor to leave the employment or engagement with the Company or any affiliate of the Company.

(c) During Executive's employment with the Company and for one year thereafter, Executive may not, directly or indirectly, induce, attempt to induce, solicit, attempt to solicit or encourage any customer, client, subscriber or supplier of the Company to change its relationship with the Company, or interfere with the Company's business, relationships or prospective relationships with any person or entity that was or is expected to become a customer or client of the Company. As such, Executive agrees that he will not divert or take advantage of any actual or potential business opportunities of the Company in which it has a current interest or is actively pursuing.

4.12 Non-Disparagement; Non-Disclosure. Executive and the Company hereby agree that during the Employment Period and at all times thereafter, neither Executive nor the Company will make any public statement, or engage in any conduct, that is disparaging, derogatory, or otherwise is a negative or false statement about the other Party or, in the case of the Company, about any of its executives, officers, directors, or shareholders, including, but not limited to, any statement that disparages the products, services, finances, financial condition, capabilities or any other aspect of the business of the Company and the capabilities of Executive. Notwithstanding any term to the contrary herein, neither Executive nor the Company shall be in breach of this Paragraph 4.12 for the making of any truthful statements under oath or in a judicial or other proceeding.

4.13 Representation. Executive represents and warrants to the Company that (i) Executive is able to enter into this Agreement with the Company, and Executive's ability to enter into this Agreement and to fully perform Executive's anticipated duties for the Company is not limited or restricted by any agreements, understandings, instruments, orders, judgments or decrees to which Executive is a party or by which Executive is bound and (ii) Executive's performance of such duties for the Company will not directly or indirectly violate any contractual or common law obligations he has or had to other employers or entities. Executive agrees that he will not improperly use, disclose, or induce the Company to use any proprietary information or trade secrets of any former or concurrent employer or other person or entity. Executive agrees that he will not bring onto the premises of the Company or transfer onto the Company's technology systems any unpublished document, proprietary information or trade secrets belonging to any such employer, person or entity unless consented to in writing by both the Company and such employer, person or entity.

4.14 Applicable Law. This Agreement shall be governed by, and construed and enforced in accordance with, the substantive and procedural laws of the State of New York; provided that after Initial Capital Raise the substantive and procedural laws of the State of California shall apply. Each Party hereto hereby irrevocably submits to the jurisdiction of the state and federal courts located in New York County, New York, and San Diego County, California and waives any claim based upon *forum non-conveniens* or lack of jurisdiction; provided that after the Initial Capital Raise the state and federal courts located in San Diego County, shall have exclusive jurisdiction.

IN WITNESS WHEREOF, the Parties have executed this Agreement effective as of the date first written above.

EXECUTIVE:

Samuel D. Riccitelli

/s/ Samuel D. Riccitelli

June 17, 2014
Date

EMPLOYER:

Signal Genetics, Inc.

By: /s/ Bennett S. LeBow
Name: Bennett S. LeBow
Title: Chairman of the Board of Directors

June 17, 2014
Date

Exhibit A

Benefits

Health and Dental Insurance

401(k) Retirement Plan

Vision Insurance

Group Term Life Insurance

Disability Insurance

Exhibit 10.8

EXCHANGE AGREEMENT

This Exchange Agreement (this "Agreement") is dated as of June 17, 2014, by and among **SIGNAL GENETICS LLC**, a Delaware limited liability company (the "Company"), **LEBOW ALPHA LLLP**, a Delaware limited liability limited partnership ("Alpha"), **LEBOW GAMMA LIMITED PARTNERSHIP**, a Delaware limited partnership ("Gamma"), **BSL CAPITAL, INC.**, a Nevada corporation ("BSL" and, together with Alpha and Gamma, the "Lenders"), **BENNETT S. LEBOW**, an individual, the **LEBOW 2012 NEVADA TRUST** and the **LFIT-A TRUST** (together with the LeBow 2012 Nevada Trust, the "Trusts," and, together with Alpha, the "Recipients").

WHEREAS, on December 31, 2013, the Company issued an Amended and Restated Secured Demand Promissory Note (the "Note") in the amount of $25,000,000 to Alpha, which bears interest at an annual interest rate of 8.0%, which Note includes all of the principal and interest then owed to Alpha and the other Lenders;

WHEREAS, as of June 17, 2014, the total amount of indebtedness under the Note (including principal and accrued but unpaid interest) is $28,326,287 (the "Note Amount");

WHEREAS, Alpha holds 10,000 Class B Units of Myeloma Health LLC, a subsidiary of the Company (the "Myeloma Units");

WHEREAS, the Company intends to convert (the "Conversion") from a Delaware limited liability company to a Delaware corporation (the "Corporation") immediately prior to its initial public offering ("IPO");

WHEREAS, the Company intends that, for U.S. federal income tax purposes, the Conversion and the IPO shall collectively qualify as an integrated transaction described in Internal Revenue Code Section 351, followed immediately by a liquidation of the Company;

WHEREAS, the Lenders have agreed to transfer an aggregate principal amount of $7,000,000 of the Note Amount to the Trusts;

WHEREAS, in connection with the Conversion and the IPO, the Lenders and the Recipients have agreed to exchange $27,326,287 of the Note Amount (the "Exchange Amount") for a number of Class C units (the "Class C Units") of the Company to be issued to the Lenders and the Recipients, in the amounts set forth on Appendix A attached hereto (the "Class C Exchange"), with the aggregate number of Class C Units being equal to the Exchange Amount divided by the initial public offering price of the shares of common stock, par value $0.01 per share, of the Corporation (the "Common Stock") to be offered and sold in the IPO, and which Class C Units shall automatically convert into an equal number of shares of Common Stock (the "Shares") of the Corporation at the time of the Conversion, and immediately prior to the IPO;

WHEREAS, in connection with the Conversion and the IPO, Alpha has also agreed to withdraw as a member of Myeloma Health LLC and to relinquish all of its right, title and interest in and to the Myeloma Units, such that following such relinquishment the Corporation will be the sole member of Myeloma Health LLC; and

WHEREAS, it is the intention of the Company that, for U.S. federal income tax purposes, the Class C Exchange shall be treated as the Company satisfying the Exchange Amount with an amount of money equal to the fair market value of the Class C Units issued pursuant to this Agreement, as described in Section 108(e)(8) of the Internal Revenue Code of 1986, as amended (the "Code").

NOW, THEREFORE, in consideration of the mutual covenants, terms and conditions set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. ISSUE AND EXCHANGE OF SECURITIES.

1.1 Authorization of Class C Units. Prior to the Closing (as defined below), the Company shall have amended and restated its current Amended and Restated Limited Liability Company Agreement, as amended (the "Operating Agreement, and as further amended and restated as contemplated herein, the "New Operating Agreement") to authorize a new class of units of the Company to be designated the "Class C Units" and shall have authorized the Class C Exchange and the Conversion, pursuant to which the Class C Units shall be automatically converted into the Shares.

1.2 Exchange and Issuance of Class C Units. The Lenders and the Recipients agree to exchange the Exchange Amount for the Class C Units to be issued to the Lenders and the Recipients and the Company agrees to issue to the Lenders and the Recipients the Class C Units, in the amounts set forth on Appendix A attached hereto, in exchange for the Exchange Amount.

2. CLOSING; DELIVERY.

2.1 Closing. The Class C Units shall be issued to the Lenders and the Recipients immediately after the pricing of the IPO and immediately prior to the execution of the Underwriting Agreement as part of the Class C Exchange and immediately thereafter exchanged for the Shares upon the Conversion on the date hereof (the "Closing").

2.2 Cancellation and Conversion; Delivery. At the Closing, the Lenders shall deliver to the Company the Note, which shall be cancelled and all obligations thereunder shall be released and discharged, and the Company shall deliver the Shares to the Lenders and the Recipients, as set forth on Appendix A attached hereto, and, at the Company's discretion, either (i) a new Secured Demand Promissory Note for a principal amount equal to the difference between the Note Amount and the Exchange Amount (the "Debt Balance Amount") or (ii) preferred stock of the Corporation, par value $0.01 per share, with a liquidation preference equal to the Debt Balance Amount (the "Preferred Stock"), to Alpha or another entity as determined by Mr. LeBow.

2.3 Transfer of Class C Units to Alpha. Following the issuance of Class C Units to Gamma and BSL and prior to the Conversion, each of Gamma and BSL shall transfer its Class C Units to Alpha.

2.4 Surrender of Myeloma Units. At the Closing, Alpha shall deliver to the Company any certificate(s) representing the Myeloma Units.

3. REPRESENTATIONS AND WARRANTIES OF THE LENDERS AND THE RECIPIENTS. The Lenders and the Recipients, as applicable, make the following representations and warranties as of the date hereof:

3.1 Requisite Power and Authority. Each of the Lenders and the Recipients has all of the necessary power, authority and capacity under all applicable provisions of law to execute and deliver this Agreement and to carry out its provisions. All actions on the part of the Lenders and the Recipients required for the lawful execution and delivery of this Agreement have been or will be effectively taken prior to the Closing. Upon its execution and delivery, this Agreement will be a valid and binding obligation of the Lenders and the Recipients, enforceable in accordance with its terms.

3.2 Investment Representations. Each of the Lenders and the Recipients understand that neither the Class C Units to be issued in the Class C Exchange nor the Shares into which the Class C Units shall be automatically converted at the time of the Conversion nor any Preferred Stock that may be issued to the Lenders and Recipients hereunder in exchange for the Debt Balance Amount (collectively referred to hereinafter interchangeably as the "Securities"), have been registered under the Securities Act of 1933, as amended (the "Act"). Each of the Lenders and the Recipients also understand that the Securities are being offered and exchanged pursuant to an exemption from registration contained in the Act based in part upon his representations provided in this Agreement. The Lenders and the Recipients, as applicable, hereby represent and warrant as follows:

3.2.1 Acquisition Entirely for Own Account. The Lenders and the Recipients are acquiring the Securities for their own account, for investment only, not as nominee or agent, and not with a view to the resale or distribution of any part thereof, and the Lenders and the Recipients have no present intention of selling, granting any participation in, or otherwise distributing the same. By executing this Agreement, the Lenders and the Recipients further represent that they do not have any contract, undertaking, agreement or arrangement with any person to sell, transfer or grant participation to such person or to any third person, with respect to any of the Securities.

3.2.2 Disclosure of Information. The Lenders and the Recipients have received all of the information they consider necessary or appropriate for deciding whether to exchange the Exchange Amount in consideration for the Securities. Each of the Lenders and the Recipients further represent that it has had an opportunity to discuss the Company's business, management and financial affairs (including without limitation its currently anticipated requirement for capital) with the Company and to ask questions and receive answers from the Company regarding the terms and conditions of the offering of the Securities and have concluded that such terms and conditions are fair to the Lenders and the Recipients.

3.2.3 Ability to Bear Economic Risk. The Lenders and the Recipients have such knowledge and experience in financial and business matters that they are capable of evaluating the merits and risks of an investment in the Company (and the Corporation following the Conversion) and have the capacity to protect their own interests in connection with the transactions contemplated in this Agreement. In determining whether to make the Class C Exchange, the Lenders and the Recipients have relied solely on their own knowledge and understanding of the Company and its business based upon his own due diligence investigations and the information furnished by the Company to them. Each of the Lenders and the Recipients understands that it must bear the economic risk of the Class C Exchange indefinitely unless the Securities are registered pursuant to the Act, or an exemption from registration is available. The Lenders and the Recipients understand that the Company has no present intention of registering the Securities. The Lenders and the Recipients also understand that there is no assurance that any exemption from registration under the Act will be available and that, even if available, such exemption may not allow the Lenders and the Recipients to transfer all or any portion of the Securities under the circumstances, in the amounts or at the times the Lenders and the Recipients might propose. Further, the Lenders and the Recipients are not aware of any publication or any advertisement in connection with the transactions contemplated in this Agreement.

3.2.4 Restricted Securities. The Lenders and the Recipients understand that the Securities may not be sold, transferred, or otherwise disposed of without registration under the Act, or an exemption therefrom, and that in the absence of an effective registration statement covering the offer and sale of the Securities or an available exemption from registration under the Act, the Securities must be held indefinitely. In particular, the Lenders and the Recipients are aware of the provisions of Rule 144 promulgated under the Act and that the Securities may not be sold pursuant to Rule 144 unless all of the conditions of that Rule are met. Among the conditions for use of Rule 144 may be the availability of certain current information to the public about the Company.

3.2.5 Accredited Investor. Each of the Lenders and the Recipients is an "accredited investor" as such term is defined in Rule 501 of Regulation D under the Act.

3.2.6 Counsel. The Lenders and the Recipients acknowledge that they have had the opportunity to review this Agreement, and the transactions contemplated by this Agreement, with their own legal counsel. The Lenders and the Recipients are relying solely on such counsel and not on any statements or representations of the Company or its agents for legal advice with respect to this investment or the transactions contemplated by this Agreement.

3.2.7 Tax Advisors. The Lenders and the Recipients have reviewed with their own tax advisors the U.S. federal, state, local and foreign tax consequences of this investment and the transactions contemplated by this Agreement. With respect to such matters, the Lenders and the Recipients rely solely on such advisors and not on any statements or representations of the Company or any of its agents, written or oral. The Lenders and the Recipients understand that they (and not the Company) shall be responsible for their own tax liability that may arise as a result of this investment or the transactions contemplated by this Agreement.

3.3 Representations Related to Myeloma Units. Alpha represents and warrants that the Myeloma Units are owned solely by it, free and clear of any and all liens, encumbrances, pledges, mortgages, hypothecations, assignments, preferences, covenants, conditional sales, leases, security interests, claims, charges, assessments, options, rights of first refusal, transfer or voting restrictions or any other restrictions of any kind or nature whatsoever. The Myeloma Units constitute 100% of the economic or other interests in Myeloma Health LLC owned by Alpha or in which Alpha has any interest.

4. REPRESENTATIONS AND WARRANTIES OF THE COMPANY. The Company makes the following representations and warranties as of the date hereof:

4.1 Organization and Standing. The Company is a limited liability company duly formed, validly existing and in good standing under the laws of the State of Delaware. The Company and each direct or indirect subsidiary of the Company has all requisite power and authority to carry out their respective businesses as presently conducted and proposed to be conducted.

4.2 Authorization. The execution, delivery and performance of this Agreement by the Company have been duly authorized by all requisite action and this Agreement constitutes the legal, valid and binding obligation of the Company enforceable in accordance with its terms.

4.3 Compliance. The Company is not in violation or default of any term of its Certificate of Formation or its Operating Agreement. The execution, delivery, and performance of and compliance with this Agreement, and the issuance and exchange of the Securities pursuant hereto will not, with or without the passage of time or giving of notice, result in any violation of, or be in conflict with or constitute a default under any term of the Certificate of Formation, the Operating Agreement or the New Operating Agreement, or result in the creation or imposition of any mortgage, pledge, lien, encumbrance or charge upon any of the properties or assets of the Company.

4.4 Capitalization. All of the outstanding units of the Company have been duly authorized, validly issued and fully paid and are not subject to any preemptive right, right of first refusal or similar right on the part of the Company or any other person and all such capital stock has been (or will have been) offered, issued and sold in all material respects in accordance with all applicable laws. The Securities, when issued in accordance with the terms of this Agreement, shall be duly authorized, validly issued, fully paid and non-assessable.

5. MISCELLANEOUS.

5.1 Legend. Any certificate representing the Securities shall bear an appropriate legend indicating that such Securities are "restricted securities" for purposes of the Securities Act of 1933, as amended, and subject to restrictions on transfer.

5.2 Survival of Warranties. The warranties and representations of the Company and the other parties made herein shall survive the execution and delivery of this Agreement and the closing of the transaction contemplated hereby and shall in no way be affected by any investigation or lack of investigation of the subject matter thereof made by or on behalf of the other parties or the Company.

5.3 Amendment and Modification; Waiver. This Agreement may only be amended, modified or supplemented by an agreement in writing signed by each party hereto. No waiver by any party of any of the provisions hereof shall be effective unless explicitly set forth in writing and signed by the party so waiving. No waiver by any party shall operate or be construed as a waiver in respect of any failure, breach or default not expressly identified by such written waiver, whether of a similar or different character, and whether occurring before or after that waiver. No failure to exercise, or delay in exercising, any right, remedy, power or privilege arising from this Agreement shall operate or be construed as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege.

5.4 Notice. All notices, requests, consents, claims, demands, waivers and other communications required or permitted by this Agreement shall be in writing and shall be deemed to have been given: (a) when delivered by hand; (b) when received by the addressee if sent by overnight courier; (c) on the date sent by facsimile or e-mail if sent during normal business hours of the recipient, and on the next business day if sent after normal business hours of the recipient; or (d) forty-eight (48) hours after being deposited in the U.S. mail, as certified or registered mail, with postage prepaid, and addressed to the party to be notified at such party's address as set forth on the signature pages hereto, or as notified to the Company in writing, or as subsequently modified by written notice.

5.5 Severability. If one or more provisions of this Agreement are held to be unenforceable under applicable law, portions of such provisions, or such provisions in their entirety, to the extent necessary, shall be severed from this Agreement, and the balance of this Agreement shall be enforceable in accordance with its terms.

5.6 Governing Law. All issues and questions concerning the application, construction, validity, interpretation and enforcement of this Agreement shall be governed by and construed in accordance with the internal laws of the State of Delaware, without giving effect to any choice or conflict of law provision or rule.

5.7 Successors and Assigns. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and permitted assigns.

5.8 Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original and all of which together shall constitute one instrument. A signed copy of this Agreement delivered by facsimile, e-mail or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original signed copy of this Agreement.

[Remainder of page intentionally left blank; Signature Page follows]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the day and the year first written.

SIGNAL GENETICS LLC

By: /s/ Samuel D. Riccitelli
Name: Samuel D. Riccitelli
Title: President and CEO

/s/ Bennett S. LeBow
BENNETT S. LEBOW

LEBOW ALPHA LLLP

By: /s/ Bennett S. LeBow
Name: Bennett S. LeBow

LEBOW GAMMA LIMITED PARTNERSHIP

By: /s/ Bennett S. LeBow
Name: Bennett S. LeBow

BSL CAPITAL, INC.

By: /s/ Bennett S. LeBow
Name: Bennett S. LeBow

LFIT-A TRUST

By: /s/ Seth R. Kaplan
Name: Seth R. Kaplan, as Trustee of the LIFT-A Trust u/a/d June 13, 2014

LEBOW 2012 NEVADA TRUST

By: /s/ Stephen Danner
Name: Stephen Danner, Family Trustee

PREMIER TRUST, INC., Independent Trustee and Administrative Trustee

By: /s/ Brian Simmons
Name: Brian Simmons
Title: VP/Trust Officer

Appendix A

Name	Exchange Amount	Class C Units of Signal Genetics LLC	Shares of Common Stock of Signal Genetics, Inc.
Lenders	$20,326,287	2,032,629*	2,032,629*
LFIT-A Trust	$3,500,000	350,000	350,000
LeBow 2012 Nevada Trust	$3,500,000	350,000	350,000
TOTAL:	$27,326,287	2,732,629	2,732,629

* Following the transfer of Class C Units from Gamma and BSL to Alpha, and prior to the Conversion, Alpha will hold all 2,032,629 Class C Units, which will be converted into 2,032,629 shares of common stock of Signal Genetics, Inc. in connection with the Conversion.

Exhibit 31.1

CERTIFICATIONS

I, Samuel D. Riccitelli, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Signal Genetics, Inc., a Delaware corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a–15(e) and 15d–15(e)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 14, 2014

/s/ Samuel D. Riccitelli

Samuel D. Riccitelli
President and Chief Executive Officer (Principal Executive Officer)

Exhibit 31.2

I, Tamara A. Seymour, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Signal Genetics, Inc., a Delaware corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a–15(e) and 15d–15(e)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: August 14, 2014

/s/ Tamara A. Seymour
Tamara A. Seymour
Chief Financial Officer (Principal Financial Officer)

Exhibit 32

SECTION 1350 CERTIFICATION

Each of the undersigned, Samuel D. Riccitelli, President and Chief Executive Officer of Signal Genetics, Inc., a Delaware corporation (the "Company"), and Tamara A. Seymour, Chief Financial Officer of the Company, do hereby certify, pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of his knowledge (1) the quarterly report on Form 10-Q of the Company for the three months ended June 30, 2014, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Samuel D. Riccitelli
Name: Samuel D. Riccitelli
Title: President and Chief Executive Officer (Principal Executive Officer)
Dated: August 14, 2014

/s/ Tamara A. Seymour
Name: Tamara A. Seymour
Title: Chief Financial Officer (Principal Financial Officer)
Dated: August 14, 2014

This certification accompanies and is being "furnished" with this Report, shall not be deemed "filed" by the Company for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to liability under that Section and shall not be deemed to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Report, irrespective of any general incorporation language contained in such filing. A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.