SIGNAL GENETICS, INC.
Form 10-K
March 21, 2016

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

x **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2015

OR

o **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)**

5740 Fleet Street, Carlsbad, California 92008
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: (760) 537-4100

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, $0.01 par value	**The NASDAQ Capital Market**

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes o No x

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes o No x

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. x Yes o No

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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). x Yes o No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x

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 definitions of “large accelerated filer”, “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer o Accelerated filer o

Non-accelerated filer o (Do not check if a smaller reporting company) Smaller reporting company filer x
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No x

The aggregate market value of the voting stock held by non-affiliates of the registrant, based upon the closing sale price of the Common Stock on June 30, 2015 as reported on The NASDAQ Capital Market, was $11.6 million. Shares of Common Stock held by each executive officer and director and by each person who owns 10% or more of the outstanding Common Stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of March 15, 2016, there were 10,709,080 shares of the registrant's Common Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

None.

SIGNAL GENETICS, INC.

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FORWARD-LOOKING STATEMENTS

All statements included in this Annual Report on Form 10-K (this "Annual Report") that are not historical are forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These forward-looking statements can generally be identified as such because the context of the statement will include words such as "may," "will," "intend," "plans," "believes," "anticipates," "expects," "estimates," "predi "potential," "continue," "opportunity," "goals," or "should," the negative of these words or words of similar import. Similarly, statements that describe our future plans, strategies, intentions, expectations, objectives, goals, or prospects are also forward-looking statements. These forward-looking statements are or will be, as applicable, based largely on our expectations and projections about future events and future trends affecting our business, and so are or will be, as applicable, subject to risks and uncertainties including but not limited to the risk factors discussed in this report, that could cause actual results to differ materially from those anticipated in the forward-looking statements. We caution investors that there can be no assurance that actual results or business conditions will not differ materially from those projected or suggested in such forward-looking statements. The forward-looking statements included in this Annual Report speak only as of the date of this Annual Report. Our views and the events, conditions and circumstances on which these future forward-looking statements are based, may change. We do not assume any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or developments, or otherwise, except as may be required by the securities laws, and we caution you not to rely on them unduly. All forward-looking statements are qualified in their entirety by this cautionary statement.

PART I

Item 1. Business

We were founded in New York as a Delaware limited liability company in January 2010 under the name Myeloma Health LLC. Signal Genetics LLC was formed as a Delaware limited liability company in December 2010. Effective January 1, 2011, substantially all of the member interests in Myeloma Health LLC were exchanged for member interests in Signal Genetics LLC and Myeloma Health LLC became a subsidiary of the Company. Immediately prior to the pricing of our initial public offering, on June 17, 2014, Signal Genetics LLC converted from a Delaware limited liability company to a Delaware corporation (the "Corporate Conversion"). In connection with the Corporate Conversion, each unit of Signal Genetics LLC was converted into a share of common stock of Signal Genetics, Inc., the members of Signal Genetics LLC became stockholders of Signal Genetics, Inc. and Signal Genetics, Inc. succeeded to the business of Signal Genetics LLC and its consolidated subsidiaries. As used in this report, the words "we," "us," "our," the "Company," and "Signal Genetics" refer to Signal Genetics, Inc. and its wholly-owned subsidiaries.

Overview

We are a commercial stage, molecular genetic 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. The patient-care decisions we impact include the field of personalized medicine, wherein diagnostic tests guide treatment decisions with genetically-targeted therapies as well as traditional chemotherapy regimens. We hold an exclusive license in our licensed field to the intellectual property stemming from the renowned research on multiple myeloma ("MM"), performed at the University of Arkansas for Medical Sciences ("UAMS").

MM is a hematologic, or blood, cancer that develops in the bone marrow and specifically affects the plasma cells of the bone marrow. Normal plasma cells produce immunoglobulins, otherwise known as antibodies, which help the body fight infection and disease. In MM, the normal plasma cells become malignant and inhibit the production of normal blood cells and antibodies, including red blood cells, white blood cells and blood platelets, and crowd the bone marrow with malignant plasma cells, which produce an abnormal antibody called a monoclonal protein ("M protein"). The hallmark characteristic of MM is a high level of M protein in the blood. MM can also cause soft spots in the bone known as osteolytic lesions. MM is the second most common blood cancer after non-Hodgkin's lymphoma ("NHL") and represents approximately 15% of all hematomalignancies. According to the American Cancer Society and the National Cancer Institute, approximately 26,850 new cases of MM were expected to be diagnosed in the United States in 2015 and approximately 11,240 deaths from MM were expected to occur in the United States in 2015. More Americans were expected to die from MM in 2015 than from any other blood cancer. Although a relatively rare disease, MM is responsible for 2% of all cancer deaths in the United States each year and will kill more Americans than melanoma, the deadliest form of skin cancer. There are an estimated 89,658 people currently living with MM in the United States. The five-year survival rate for people with MM is about 47%. The American Cancer Society estimates that the lifetime risk in the United States of getting MM is 1 in 143.

To date, there are no known causes of MM. The most significant risk factor for developing MM is age. According to Nature: International Weekly Journal of Science's supplement on MM published on December 15, 2011 in volume 480, page S-33 through S-80, or Nature's MM supplement, 96% of MM cases are diagnosed in people older than 45 years of age, and more than 63% are diagnosed in people older than 65 years of age. There are usually no early stage symptoms of MM and a suspicion of a MM diagnosis is often made incidentally through routine blood tests which reveal low numbers of red blood cells and high levels of protein. Once diagnosed, MM is classified into one of three categories in a process known as staging. Staging is the process of determining how widespread or advanced the cancer is. Under the International Staging System ("ISS"), MM is classified into three stages based upon the presence of serum beta-2 microglobulin and serum albumin, which are blood proteins that are measured through a blood test. Staging is the key factor in a physician's choice of treatment for a patient and that patient's outlook or prognosis, often framed as progression free survival ("PFS") or overall survival ("OS"). Prognosis is typically based on the existence of different signs, symptoms and circumstances. Certain laboratory and clinical findings, or prognostic indicators, provide important information for MM, including when treatment should begin and what treatments to use, based upon a patient's individual prognosis and risk for relapse. However, the experts caring for MM patients have been burdened by a staging system that predates and thus fails to capture the rich body of new genomic information that has been shown to assist in the staging process. Similar genetic information has proven transformational in a number of solid tumor types, including breast, colon and lung cancer. In each case, specific genetic determinants enable doctors to identify patients who are likely to respond to genetically targeted therapies, resulting in better outcomes for these patients, including a higher rate of survival. According to the National Cancer Institute, these benefits have not yet been recognized in MM treatment. The traditional approach in MM treatment which utilizes cytogenetic techniques, such as karyotyping and fluorescent in-situ hybridization ("FISH"), for staging may not accurately stage MM patients or accurately assess the risk of relapse. Perhaps the greatest shortcoming of the current staging system for MM is its inability to classify MM patients into high and low risk prognosis groups. A tool that can further define risk-stratification by classifying MM patients in this manner would better inform physicians when to treat and what drugs to treat patients with, potentially improving health outcomes in MM patients. We believe a more comprehensive, systematic approach utilizing current genetic technologies is necessary to meet this unmet medical need.

Our flagship diagnostic service is the Myeloma Prognostic Risk Signature, or MyPRS® test. The MyPRS® test is a microarray-based gene expression profile ("GEP"), assay that measures the expression level of specific genes and groups of genes that are designed to predict an individual's long-term clinical outcome/prognosis, giving a basis for personalized treatment options and helping physicians classify MM patients into either high or low risk groups. The MyPRS® test provides a whole-genomic expression profile of a patient's MM. The GEP is a genetic fingerprint of a cancer, with each cancer being unique, just as each fingerprint is unique. Many recent studies show that the GEP of cancerous tumors makes personalized treatment possible, and our MyPRS® test is the first genetic test to be developed specifically for MM according to the 2007 John Shaughnessy paper in the journal Blood (A validated gene expression model of high-risk multiple myeloma is defined by deregulated expression of genes mapping to chromosome 1. Mar 15;109(6):2276-84. Epub 2006 Nov 14). MyPRS® is designed to be used at the time of initial MM diagnosis and also when the patient has experienced a relapse as an aid to physicians in selecting the optimal treatment regimen for each patient's unique condition. Specifically, the test helps allow:

- risk stratification to help distinguish patients with indolent MM that may not need treatment from those patients with aggressive MM that requires more aggressive treatment; and
- identification of important genomic alterations that allow for MM sub-classification that may affect the therapy selection, and potentially enable a personalized medicine approach.

Our Services

We offer our MyPRS® test in our approximately 2,800 square foot state-of-the-art laboratory located in Little Rock, Arkansas, which is certified under the Clinical Laboratory Improvement Amendments of 1988 ("CLIA") and accredited by the College of American Pathologists ("CAP"), to perform high complexity testing. We are licensed to sell our test in all 50 states. We are dedicated to making our extensively validated diagnostic services available to all patients who need them.

In addition, we are exploring, and peer-review studies are being conducted on, the use of our MyPRS® test as an indicator of progression to MM in patients with either smoldering multiple myeloma ("SMM"), or monoclonal gammopathies of unknown significance ("MGUS"), the precursor conditions to MM. There is, however, currently no projected timeline for our use of MyPRS® in these patients. For a discussion of MyPRS® in these patients see "— Market Opportunities," below.

Over the next 12 to 18 months, we intend to expand our test menu by adding tests that are used to help manage MM patients. There is a broad array of molecular and cytogenetic testing modalities that are utilized in the management of patients with MM, such as conventional cytogenetics, FISH, molecular tests, M protein serum test and flow cytometry (especially in the context of minimum residual disease testing for MM therapy response). During 2015, we launched both RNA sequencing and next generation DNA sequencing services for research use only to assist our research collaborators, including pharmaceutical companies, in further characterizing their MM patients enrolled in clinical trials.

Market Opportunities

Over the past several decades, improved awareness and diagnostic testing technologies have led to an increase in the early diagnosis of cancer. Although the goals of these efforts were to decrease cancer mortality, national data demonstrate significant increases in early-stage disease, without a proportional decline in later-stage disease. What has emerged amongst clinicians and researchers has been an appreciation of the complexity of cancer. Cancers are heterogeneous and do not follow a uniform course. In some cases, cancer can lead to severe disease and death, while in other cases it is indolent. Unfortunately, identifying those patients who will likely succumb to non-cancer related causes, or comorbidities, is difficult.

Before 1990, treatment of MM was limited to the use of melphalan (a chemotherapeutic agent) and prednisone (a steroid), which were of marginal effectiveness. In 1986, high dose dexamethasone (a corticosteroid), which is used to induce plasma cell lysis, was introduced and in the early 1990s, induction therapy with vincristine, doxorubicin (a chemotherapeutic agent) and dexamethasone, followed by stem cell transplant after high dose melphalan was introduced and resulted in longer term remissions but patients always relapsed. Then, in 1999, thalidomide was added to existing regimens for MM. The first clinicians to attempt the use of thalidomide in the treatment of MM were at the UAMS. The initial use of thalidomide ultimately led to the development of Revlimid®, Celgene's blockbuster drug that is now part of most front-line therapies for the treatment of MM. In 2006, Velcade® was approved and added to existing regimens. Thalomid®, Revlimid® and Velcade® are now considered cornerstones of therapy in addition to stem cell transplant after bone marrow ablation.

Although new treatments for patients with MM have become available over the last 10 years, we do not believe that these treatments have provided any significant benefits in overall survival — especially in the high risk patient population. In part, this is because MM is a disease with significant tumor heterogeneity at the genetic level. Specialists in MM have long recognized the need for diagnostic tests that accurately identify the mutations and overarching genotype of each patient to inform risk stratification, prognosis and choice of therapy. Because it is impossible to use classic staging modalities such as clinical factors and cell morphology (the microscopic review of tumor material by a pathologist) to classify MM, physicians use plasma cell labeling indices, chemical markers, imaging studies and genetic abnormalities at the chromosomal level (e.g., cytogenetics) to better predict prognosis. Unfortunately, these tests provide limited information as to a particular MM patient's prognosis and response to treatment. With the use of MyPRS® GEP, it has become possible to go beyond morphological and chromosomal level analysis and identify the individual MM genomic profile of each individual patient.

Like many forms of cancer, MM can present as asymptomatic, even in advanced stages. MM begins as the precursor condition, MGUS. It is estimated that more than 3% of the population of the United States 50 years of age or older have MGUS. Characterized by an excess of particular immunoglobulins or M proteins in the serum or urine with less than 10% plasma cells in the bone marrow, MGUS is not itself harmful to health. But every year, 1% of MGUS patients will progress to MM.

Aside from the precursor condition, MGUS, MM exists on a spectrum from asymptomatic or SMM to full-blown MM. Collectively, these precursor conditions, MGUS and SMM, are referred to as AMG. Preventative treatment of every AMG patient is not a viable option. As noted in The Disperenzieri paper (Blood October 2013), along with the prohibitive expense, many doctors worry that they could do more harm than good if they treat otherwise healthy people, the vast majority of whom will never develop MM. A 1988 clinical study discussed in Nature's MM supplement, using the best treatments available at the time, concluded that treating patients even at the smoldering stage caused unnecessary side effects with no survival benefit.

The applicability of our test for use in predicting MM progression from AMG could create a substantial increase in the potential patient population eligible for MyPRS® testing and as such represents an important pillar of our growth strategy. We estimate the total potential MM testing market in the United States at approximately 40,000 patients per year, including newly diagnosed and relapsed patients. We believe we currently service just over 3% of this market.

We estimate that the addition of an AMG progression indication feature for the MyPRS® test could expand the MyPRS® addressable market in the United States to more than 140,000 patients per year. As a specialty focused diagnostic laboratory company, we hope for such opportunities to expand our service offerings for the benefit and convenience of physicians and patients.

Our Competitive Strengths

Differentiated value proposition of the MyPRS® test

We believe the MyPRS® test is one of the most extensively validated molecular prognostic assays on the market today. There are more than 30 peer-reviewed scientific publications that substantiate the clinical validity and utility of the MyPRS® test. MyPRS® is the only GEP-based prognostic assay commercially available in the United States which may be used to determine which patients have a high-risk form of MM.

Additionally, the MyPRS® test provides oncologists with the molecular subtype of each patient's particular form of MM. Molecular subtypes can be used to further stratify the level of risk severity of a patient's MM as well as assist the physician in choosing the most appropriate therapy while potentially avoiding therapies that may be less beneficial or harmful.

Furthermore, MyPRS® provides a virtual karyotype (a characterization of the chromosomal complement of an individual or a species, including number, form and size of the chromosomes), that can identify cytogenetic abnormalities in patients with MM. The accuracy of this method was validated against a range of conventional cytogenetic techniques and was shown to have a concordance of 89%. Certain cytogenetic abnormalities are commonly used, along with clinical and cell biology parameters in the traditional work up of MM patients for determining disease stage and to help guide therapy decisions for patients. The virtual karyotype algorithm in MyPRS® was designed to be an alternative to conventional methods that can be time consuming, expensive, subjective and can often fail to provide results due to the difficulties encountered when attempting to culture myeloma cells.

Pharmaceutical Services

There are currently over 300 new therapies in development for MM. Many of the pharmaceutical and large biotechnology companies have ongoing development programs for new compounds and combinations of existing drugs including Celgene, Takeda, Novartis, Karyopharm, Pharmacyclics, Janssen and Roche.

We believe that MyPRS® offers an attractive value proposition for companies developing therapies for MM by its ability to stratify high-risk patients likely refractory to current standard of care and to identify a patient's molecular subtype which assists physicians in determining the most appropriate therapy or class of drugs for each patient. In addition, we have analyzed over 20,000 patients with MyPRS® and have the gene expression data available to assist companies in identifying the appropriate patient population for new compounds and combination therapies.

We executed master service agreements with two leading pharmaceutical companies in 2015. Under these agreements, MyPRS® is being run across multiple clinical trials in connection with the development of novel treatments for patients with MM.

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

We are the exclusive licensee to the intellectual property developed at UAMS's Myeloma Institute ("MI"), in our licensed field. MI is one of the largest centers in the world dedicated solely to MM and related diseases as well as to prevention and management of treatment-related consequences, including myelodysplastic syndrome ("MDS") and acute myelogenous leukemia (AML). UAMS developed a novel "Total Therapy" approach, designed as a first line treatment for MM that includes a full array of treatment modalities. This approach is considered, by many in the oncology community, to have achieved positive results, particularly in patients diagnosed with low-risk MM who are treated at UAMS MI. A number of treatment improvements for MM patients were first discovered at MI. The physicians at MI routinely utilize our MyPRS® test to identify patients who may be eligible for the provision of "Total Therapy."

We are the exclusive provider of GEP-based testing to UAMS. UAMS has a thirty-year history of clinical and research knowledge and experience. UAMS has treated more than 10,000 patients since the program's inception in 1989. UAMS has amassed more than 10,000 gene array samples, many of which were used to discover and validate the MyPRS® test. More than 90% of patients who are treated at UAMS continue to be actively followed by UAMS over the course of their lifetime — many patients have been followed for more than 20 years.

Because of our exclusive relationship with UAMS, we are uniquely positioned to benefit from the breadth of clinical research and expertise developed at UAMS. We intend to continue to use this relationship to improve our MyPRS® test and develop additional indications for the MyPRS® test, as well as additional tests. Our relationship with UAMS also provides us with credibility within the oncology community beyond that related to the MyPRS® validation we have received in published articles, and we benefit from this association in our pursuit of additional collaborations with leading universities and research institutions.

Revenue sourced from or through UAMS accounted for 54% and 84% of our net revenue for the years ended December 31, 2015 and 2014, respectively. The decrease is due to the decrease in research funds available at UAMS for such programs. We expect continued declining revenue from the UAMS research programs.

Our substantial proprietary estate that protects our exclusive access to the MyPRS® test

We use our trademark of Signal Genetics, Inc.™ and our registered trademark MyPRS® in this Annual Report. This report may also refer to trade names and trademarks of other organizations.

We currently license, or own outright, 14 issued patents (12 issued U.S. patents, one issued European patent validated in 9 countries: Switzerland, Germany, Denmark, Spain, France, United Kingdom, Italy, Netherlands, and Sweden, and one issued Japanese patent with various expiration dates ranging from 2022 to 2030) and 11 pending patent applications, many of which protect and defend our exclusive ability to market the MyPRS® test as well as additional proprietary tests and treatments. We also have six registered U.S. trademarks to further differentiate our products and services in the marketplace.

There are two issued U.S. patents related to the MyPRS® test, which form the basis of our right to exclude others from practicing the MyPRS® test. The patents claim methods of gene expression-based classification for MM using RNA from plasma cells, methods of identifying groups of genes that can distinguish normal and MM plasma cells by isolating RNA from CD138 positive plasma cells and identifying differentially expressed genes, methods of diagnosing MM by examining mRNA levels or chromosomal translocations of particular genes from plasma cells, methods of determining the prognosis of a human multiple myeloma patient by measuring gene expression levels of multiple genes from plasma cells, and methods of determining the prognosis of a MM patient by determining the copy number of the CKS1B gene in plasma cells. CKS1B is one of the genes in the 70 gene signature.

In addition to the issued U.S. patents, we have one issued Japanese patent and several pending patent applications in the United States and abroad directed to other aspects of the MyPRS® test. For example, the Japanese patent provides methods for examining the susceptibility of a subject for transformation from a low-risk to a high-risk MM by measuring gene expression levels of multiple genes expressed from plasma cells isolated from the subject. A Canadian application and an issued European counterpart patent of one of the five issued U.S. patents (U.S. Patent No. 8,843,320) describe the full 70 gene signature used in the MyPRS® test. Another pending U.S. application provides methods of prognosing subjects with MGUS using the 70 gene signature. We expect that additional advances will come out of our ongoing work and form the basis of additional intellectual property to protect and refine the MyPRS® test, through new patent filings, trademarks, trade secrets, and copyrights.

Focus on the leading academic hospitals in the United States where a large portion of MM patients are treated

We currently focus our sales efforts exclusively on leading academic research hospitals and clinics throughout the United States. Given our limited selling and marketing capabilities, focusing our sales efforts on these academic research hospitals and clinics provides an efficient way to reach the largest segment of MM patients with our limited resources. Selling into academic research hospitals and clinics is a complex process that requires technical knowledge and the ability to engage in discourse to convince technical and administrative stakeholders to adopt new diagnostic tests or therapies. Our current commercial team is well versed in the science and technology behind our MyPRS® test. We will continue to grow our commercial organization with expertise necessary to interface successfully with these institutions.

The extensive scientific evidence that substantiates the MyPRS® test is a key enabler for our sales effort that affords us access to the thought leaders within these institutions. The relationships that we build with the thought leaders at leading academic hospitals is a direct result of the quality of our science and the quality of our services and helps to secure continued access to these accounts and the MM patients they treat. It also affords us the opportunity to expand our offerings as we add additional services to our test menu.

Early success in establishing positive reimbursement coverage for MyPRS®

We successfully obtained a positive Local Coverage Determination (“LCD”), for MyPRS® in March 2011 from the Arkansas Medicare Administrative Contractor (“MAC”), which at the time was Pinnacle Medical Services. The current MAC is Novitas Health Solutions. We have also received reimbursement approval from Blue Cross Blue Shield of Arkansas and we are an in-network provider to their patient population. We anticipate that our managed care team, which includes our recently added Chief Medical Officer, as of September 2015, and the continued development of our clinical validity and utility dossier, we will be able to achieve positive coverage determinations from a number of the major third-party payors in the United States. However, those efforts may take quite some time and may not be successful. In the meantime, we have executed agreements with eleven Preferred Provider Networks (“PPO Networks”) to facilitate our reimbursement from third-party payors.

Experienced oncology-centered laboratory

Our specimens are tested and interpreted by highly qualified oncology-focused laboratory professionals with more than 70 years of cumulative experience with gene expression-based diagnostic testing technology. Because our clinical staff is highly specialized in oncology, we believe we are better positioned to consult with our oncologist customers to help them derive maximum value from the diagnostic and prognostic data generated by our tests.

Our Growth Strategy

Our goal is to deliver innovative diagnostic services that enable physicians to make better-informed treatment decisions regarding the care of their cancer patients. We intend to do this by:

- Expanding the U.S. market penetration of our MyPRS® test by increasing the geographic coverage of our commercial organization,;
- Broadening the base of health care insurance companies that have approved reimbursements for MyPRS®;
- Expanding the diagnostic indications for MyPRS® to include AMG, the precursor conditions to MM;
- Pursuing additional collaborations with pharmaceutical companies who focus on developing therapies to treat MM and its precursor disease;
- Expanding our information technology infrastructure to further improve our customer service experience;
- Continuing to leverage our relationship with UAMS via our exclusive license agreement;
- Expanding our test offering with the addition of other molecular tests useful to physicians who care for MM patients;
- Expanding and leveraging our capabilities into additional blood cancer indications;
- Pursuing additional collaborations, mergers and acquisitions, and in-licensing to expand our service offering; and
- Continuing to reduce the costs associated with the development, manufacture and interpretation of our proprietary genomic tests and services.

Competition

The primary competition for our MyPRS® test stems from the use of older diagnostic technologies to assess patient prognosis and to define high risk and low risk MM patients. These older technologies include various serum markers, karyotype analysis and FISH probes. Several independent groups have assessed the use of GEP versus various conventional methodologies and these studies have been published in peer-reviewed journals. For a select list of these publications, please visit our website at www.signalgenetics.com in the "Publications" section under the "Physician Resources" tab. It is our experience that whenever MyPRS® is compared to conventional techniques, the MyPRS® test shows superior ability to predict patient outcome. We believe that an active educational-based marketing campaign and additional sales personnel to deliver the message to potential new clients is needed to drive MyPRS® adoption by educating physicians as to the limitations of conventional testing modalities and the added benefits of MyPRS® testing. Additionally, there are a number of independent clinical studies that are underway that continue to compare our MyPRS® test to various conventional techniques, and we believe these new studies will also demonstrate the superiority of our MyPRS® test to predict patient prognosis. However, we cannot be sure that the data will support the superiority of MyPRS® and even if there is support, physicians may not adopt use of MyPRS® by incorporating it in to their molecular diagnostic work up of MM or AMG patients.

Another source of competition for our MyPRS® test stems from other scientific teams attempting to develop GEP signatures utilizing other genes or a subset of the genes utilized in the MyPRS® test. Two signatures 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, MyPRS®. Based on previous head-to-head comparisons, we believe that the MyPRS® test is a superior predictor of patient outcome compared to any other published gene expression signature. However, there is no guarantee that in the future a GEP will not be commercially available that is superior to MyPRS®. If that happens, our commercialization efforts could be severely hampered.

We are not currently aware of any company attempting to bring GEP based tests into the U.S. market. Additionally, we believe our intellectual property portfolio will provide protection for our exclusive ability to market GEP tests for MM in the U.S. Our success to date in establishing reimbursement coverage for our MyPRS® test may provide an additional competitive barrier to any new U.S. market entrant attempting to use GEP to predict prognosis in MM patients. This is because we believe any such test would have to be supported by evidence showing clinical validity and clinical utility that is of the same strength as the evidence supporting MyPRS®. Lastly, we are not aware of any pending clinical research utilizing a GEP to predict conversion from AMG to MM other than the SWOG study that used the MyPRS® test. However, there may be other academic or industry based scientists who are developing new genetic expression based predictive assays or other novel technology based assays that will be superior to MyPRS® test in predicting risk in patients with MM and/or AMG.

We compete largely on the basis of the quality of our tests, the significant number of peer-reviewed scientific publications that support the clinical validity and utility of our MyPRS® test, our turnaround time, the convenience of ordering our tests and the innovation of our results delivery platform.

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. Our actual and potential competitors in the United States and abroad may include biotechnology, genomic and diagnostic companies such as Novartis, Cancer Genetics, Inc. and NeoGenomics, Inc., large clinical laboratories, universities and other research institutions. Many of our potential competitors have considerably greater financial, technical, marketing, research and other resources than we do, which may allow these competitors to discover important information and develop technology before we do. 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 products that are superior to our tests and technologies, including our pipeline products. Also, our competitors may succeed in developing technologies, products or services that are more effective than those that will be developed by us or that would render our technology or product candidates less competitive or obsolete.

In addition, our goal is to develop diagnostic tests and other services that impact the treatment of MM and other cancers. If those treatments change, it is possible that the demand for our services and products could significantly decline or cease altogether. The development of new or superior competing technologies, products or services, or a change in the treatment of MM and other cancers, could affect our competitive position and harm our business. Moreover, these competitors may offer broader services and/or product lines and have greater name recognition than us and may offer discounts as a competitive tactic.

Additionally, competitors may succeed in developing products and/or services that are approved by the FDA and/or they may market technologies, products or services that are more effective or commercially attractive than our tests and services or that render our technologies and current or potential tests and other services obsolete. Competitors may also develop proprietary positions that may prevent us from commercializing, or continue to commercialize current and future product candidates.

We also face competition from companies such as Genoptix, Inc. (a Novartis AG company), Neogenomics, Inc., Cancer Genetics, Inc., Bio-Reference Laboratories (a division of OPKO Health, Inc.)., Integrated 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 aimed at predicting patient outcome as well as identifying targeted treatment options will be developed and that these products may compete with ours. 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.

Research and Development Program

Research and development is crucial to our ongoing growth as we seek to expand our series of diagnostic tests for use by physicians that treat MM and other cancer patients. Our research and development expenses were $1.0 million and $347,000 for the years ended December 31, 2015 and 2014, respectively, representing 39% and 8% of our net revenue for the years ended December 31, 2015 and 2014, respectively. Major components of our research and development expenses include supplies and reagents for our research activities, personnel costs, occupancy costs, equipment warranties and service, insurance, consulting, and clinical research sponsorship. We are also investing in clinical research studies to further validate the clinical utility of MyPRS® to predict the risk that a patient with AMG would progress to developing MM and to facilitate the development and clinical utility validation of additional genetic characterization of MM patients. We expect research and development expenses to increase as we work to develop additional diagnostic tests and services or add indications, including new testing modalities, and to study additional diagnostic and prognostic indicators for patients suffering from MM and its precursor conditions AMG, as well as other hematomalignancies. In the future, we expect research and development expenses to increase as we work to develop additional tests and services 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 services, nor do we know if we will be successful in these endeavors.

Governmental Regulation

Our business is subject to extensive laws and regulations, the most significant of which are summarized below.

Clinical Laboratory Improvement Amendments

We are subject to CLIA, which is administered by CMS, and extends federal oversight to virtually all clinical laboratories by requiring certification by the federal government or by a federally-approved accreditation agency.

Under CLIA, a laboratory is defined as any facility which performs laboratory testing on specimens derived from humans for the purpose of providing information for the diagnosis, prevention or treatment of disease, or the impairment of, or assessment of health. CLIA requires that we hold a certificate applicable to the type of work we perform and comply with certain standards. CLIA further regulates virtually all clinical laboratories by requiring compliance with various operational, personnel, facilities, administration, quality and proficiency requirements intended to ensure that their clinical laboratory testing services are accurate, reliable and timely. CLIA certification is a prerequisite to being eligible to bill for services provided to governmental payor program beneficiaries. CLIA is user-fee funded. Therefore, all costs of administering the program must be covered by the regulated facilities, including certification and survey costs.

CLIA has specific conditions for certification. CLIA is intended to ensure the quality and reliability of clinical laboratories, including the accuracy, reliability and timeliness of patient test results performed in clinical laboratories in the United States, by mandating specific standards in the areas of personnel qualification, administration participation in proficiency testing, patient test management, quality control, quality assurance and inspections. CLIA regulations contain guidelines for the qualification, responsibilities, training, working conditions and oversight of clinical laboratory employees. In addition, specific standards are imposed for each type of test that is performed in a laboratory. The categorization of commercially marketed in vitro diagnostic tests under CLIA is the responsibility of the FDA. The FDA will assign commercially marketed test systems into one of three CLIA regulatory categories based on their potential risk to public health. Tests will be designated as waived, of moderate complexity or of high complexity. CLIA and the regulations promulgated thereunder are enforced through quality inspections of test methods, equipment, instrumentation, materials and supplies on a periodic basis. The sanction for failure to comply with CLIA requirements may be suspension, revocation or limitation of a laboratory’s CLIA certificate, which is necessary to conduct business, as well as significant fines and/or criminal penalties. If a laboratory is certified as “high complexity” under CLIA, the laboratory is permitted to obtain analyte specific reagents, or ASRs, which are commercially marketed products that function as the building blocks of in vitro diagnostic tests and in-house diagnostic tests known as “home brews.” We received our CLIA certificate as a “high complexity” laboratory in 2011. Our current CLIA certificate renewal period began April 14, 2015 and will expire on April 13, 2017. Loss of our CLIA certification, change in CLIA or CLIA regulations or in the interpretation thereof, could have a material adverse effect on our business.

New York State Laboratory Licensing

New York state laws and regulations also establish standards for the day-to-day operations of clinical laboratories, including physical facility requirements and equipment and quality control. New York standards include proficiency testing requirements, even for a laboratory not located within the state. In addition, the New York Department of Health separately approves certain LDTs offered in New York State. In June 2014, following our initial public offering, we obtained the requisite approvals for our LDTs in New York. Such license expires in June 2016. We expect to renew the license before expiration.

Other States' Laboratory Testing

In addition to New York, certain other states, including California, Florida, Maryland, Pennsylvania, and Rhode Island require that we hold licenses to test specimens from patients residing in those states even though we are physically located in Arkansas. We have obtained licenses in these states and believe we are in material compliance with their applicable licensing laws, and will continue to pursue license renewals, as required.

From time to time, other states may require out of state laboratories to obtain licensure in order to accept specimens from such state. If we identify any other state with such requirements or if we are contacted by any other state advising us of such requirements, we intend to follow instructions from the state regulators as to how we should comply with such requirements.

Other Laboratory Regulations

Our clinical operations are also subject to regulation under state laws that may be more stringent than CLIA. State clinical laboratory laws generally require that laboratories and/or laboratory personnel meet certain qualifications. State clinical laboratory laws also generally require laboratories to specify certain quality controls and maintain certain records. For example, California requires that we maintain a state issued license and comply with California standards for our laboratory operations, including the standards for laboratory personnel and quality control. Additional states may require similar licenses in the future. Potential sanctions for violation of these state requirements include significant fines and the suspension or loss of various licenses, certificates and authorizations, which could adversely affect our business and results of operations. Finally, we may be subject to regulation in foreign jurisdictions, including in Europe and Asia, if we expand offering of our tests or distribution of our tests internationally.

HIPAA Compliance and Privacy Protection and the HITECH Act

HIPAA and its implementing regulations established comprehensive federal protection for the privacy and security of health information. The HIPAA standards apply to three types of organizations, or “Covered Entities”: health plans, health care clearing houses, and health care providers who conduct certain health care transactions electronically, or Standard Transactions. Covered Entities must have in place administrative, physical and technical safeguards to protect against the misuse of individually identifiable health information, or PHI. Additionally, some state laws impose privacy and security protections more stringent than HIPAA’s and some states impose privacy and security obligations specifically applicable to clinical laboratories. Additionally, many states have implemented data breach laws requiring additional security measures for certain types of PHI and also public notification of the theft, breach or other loss of personal information. There are also international privacy laws, such as the European Data Directive and various national laws implementing the Data Directive, that impose restrictions on the access, use, and disclosure of health information and other types of identifiable personal information. All of these laws may impact our business. We are a Covered Entity subject to the HIPAA regulations because our testing services are reimbursable by insurance payors and we conduct Standard Transactions. We have an active program designed to address HIPAA regulatory compliance. This program will likely require periodic updating to comply with amendments to HIPAA. Regardless of our own Covered Entity status, HIPAA presently applies to many of the facilities and physicians with whom we do business and controls the ways in which we may obtain tissue specimens and associated clinical information from those facilities and physicians. We believe we have taken the steps required for us to comply with applicable health information privacy and confidentiality statutes and regulations under both federal and applicable state jurisdictions. However, we may not be able to maintain compliance in all jurisdictions where we do business. Our failure to comply with these privacy laws or significant changes in the laws restricting our ability to obtain tissue specimens and associated patient information could significantly impact our business and our future business plans.

Additionally, the HITECH Act and the regulations promulgated thereunder by the HHS require HIPAA covered entities, including clinical laboratories, to provide notification to affected individuals and to the Secretary of HHS, following discovery of a breach of unsecured PHI. In some cases, the HITECH Act requires covered entities to provide notification to the media of breaches. In the case of a breach of unsecured PHI at or by a business associate of a covered entity, the HITECH Act requires the business associate to notify the covered entity of the breach. The HITECH Act requires the Secretary of HHS to post on the HHS website a list of covered entities that experience breaches of unsecured PHI involving more than 500 individuals. The HITECH Act made other changes relating to the HIPAA privacy and security rules, including, among others, establishing that, effective February 17, 2010, the HIPAA security and certain privacy regulations apply directly to business associates and, consequently, that a business associate’s violation of the HIPAA regulations may result in government enforcement action directly against the business associate or the covered entity with whom the business associate contracts depending upon the nature of that business relationship. We contract with business associates to provide certain services regulated by the HIPAA regulations and therefore must comply with the HIPAA regulations governing those business relationships.

In summary, 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.

Federal and State Physician Self-referral Prohibitions

We are subject to the Stark Law, and restrictions under California's Physician Ownership and Referral Act, or PORA. These restrictions prohibit us from billing a patient or any governmental or private payor for any test when the physician ordering the test, or any member of such physician's immediate family, has an investment interest in or compensation arrangement with us, unless the arrangement meets an exception to the prohibition.

Both the Stark Law and PORA contain an exception for referrals made by physicians who hold investment interests in a publicly traded company that has stockholders' equity exceeding $75 million at the end of its most recent fiscal year or on average during the previous three fiscal years, and which satisfies certain other requirements. In addition, both the Stark Law and PORA contain an exception for compensation paid to a physician for personal services rendered by the physician. In the future we may develop compensation arrangements with other physicians for personal services. We will structure these arrangements with terms intended to comply with the requirements of the personal services exception to Stark Law and PORA and other applicable laws.

However, we cannot be certain that regulators would find these arrangements to be in compliance with Stark Law, PORA or similar state laws. If we are deemed out of compliance by the applicable regulators, we would be required to refund any payments we receive pursuant to a referral prohibited by these laws to the patient, the payor or the Medicare program, as applicable.

Penalties for a violation of the Stark Law include: refunds of amounts collected by an entity in violation of the Stark Law, denial of payment for the services provided in violation of the prohibition, and civil penalties of up to $15,000 per service arising out of the prohibited referral. Additionally, a person who engages in a scheme to circumvent the Stark Law's prohibition may be subject to a civil penalty of up to $100,000. A violation of PORA is a misdemeanor and could result in civil penalties and criminal fines.

Other states have self-referral restrictions with which we have to comply that differ from those imposed by federal and California law.

While we have attempted to comply with these laws, it is possible that some of our financial arrangements with pathologists and other physicians could be subject to regulatory scrutiny at some point in the future, and we cannot

provide assurance that we will be found to be in compliance with these laws following any such regulatory review.

Federal, State and Foreign Fraud and Abuse Laws

The federal Anti-Kickback Statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce or in return for purchasing, leasing, ordering or arranging for the purchase, lease or order of any health care item or service reimbursable under a governmental payor program. The definition of "remuneration" has been broadly interpreted to include anything of value, including gifts, discounts, credit arrangements, payments of cash, waivers of co-payments, ownership interests and providing anything at less than its fair market value. Recognizing that the Anti-Kickback Statute is broad and may technically prohibit many innocuous or beneficial arrangements within the health care industry, the HHS has issued a series of regulatory "safe harbors." These safe harbor regulations set forth certain provisions, which, if met, will assure health care providers and other parties that they will not be prosecuted under the federal Anti-Kickback Statute. Although full compliance with these provisions ensures against prosecution under the federal Anti-Kickback Statute, the failure of a transaction or arrangement to fit within a specific safe harbor does not necessarily mean that the transaction or arrangement is illegal or that prosecution under the federal Anti-Kickback Statute will be pursued. For further discussion of the impact of federal and state health care fraud and abuse laws and regulations on our business, see the section entitled "Risk Factors — Risks Related to Our Business — 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, or if a tribunal has determined that we do not fully comply with such laws."

In addition to the administrative simplification regulations discussed above, HIPAA also created two new federal crimes: health care fraud and false statements relating to health care matters. The health care fraud statute prohibits knowingly and willfully executing a scheme to defraud any health care benefit program, including private payors. A violation of this statute is a felony and may result in fines, imprisonment or exclusion from federal health care programs such as the Medicare and Medicaid programs. The false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for health care benefits, items or services. A violation of this statute is a felony and may result in fines, imprisonment or exclusion from federal health care programs.

Finally, another development affecting the health care industry is the increased enforcement of the federal False Claims Act and, in particular, actions brought pursuant to the False Claims Act's "whistleblower" or "qui tam" provisions. The False Claims Act imposes liability on any person or entity that, among other things, knowingly presents, or causes to be presented, a false or fraudulent claim for payment by a federal governmental payor program. The qui tam provisions of the False Claims Act allow a private individual to bring actions on behalf of the federal government alleging that the defendant has defrauded the federal government by submitting a false claim to the federal government and permit such individuals to share in any amounts paid by the entity to the government in fines or settlement. In addition, various states have enacted false claim laws analogous to the federal False Claims Act, many of which apply where a claim is submitted to any third-party payor and not merely to a governmental payor program. When an entity is determined to have violated the False Claims Act, it may be required to pay up to three times the actual damages sustained by the government, plus civil penalties ranging from $5,500 to $11,000 for each false claim.

Additionally, in Europe various countries have adopted anti-bribery laws providing for severe consequences, in the form of criminal penalties and/or significant fines, for individuals and/or companies committing a bribery offence. Violations of these anti-bribery laws, or allegations of such violations, could have a negative impact on our business, results of operations and reputation. For instance, in the United Kingdom, under the Bribery Act 2010, which went into effect in July 2011, a bribery occurs when a person offers, gives or promises to give a financial or other advantage to induce or reward another individual to improperly perform certain functions or activities, including any function of a public nature. Bribery of foreign public officials also falls within the scope of the Bribery Act 2010. Under the new regime, an individual found in violation of the Bribery Act 2010, faces imprisonment of up to 10 years. In addition, the individual can be subject to an unlimited fine, as can commercial organizations for failure to prevent bribery.

There are federal and state laws prohibiting fraudulent billing and providing for the recovery of non-fraudulent overpayments, as a large number of laboratories have been forced by the federal and state governments, as well as by private payors, to enter into substantial settlements under these laws. In particular, if an entity is determined to have violated the federal False Claims Act, it may be required to pay up to three times the actual damages sustained by the government, plus civil penalties ranging from $5,500 to $11,000 for each separate false claim. While there are many potential bases for liability under the federal False Claims Act, such liability primarily arises when an entity knowingly submits, or causes another to submit, a false claim for reimbursement to the federal government. Submitting a claim with reckless disregard or deliberate ignorance of its validity could result in substantial civil liability. A current trend within the health care industry is the increased use of the federal False Claims Act and, in particular, actions under the False Claims Act's "whistleblower" or "qui tam" provisions to challenge providers and suppliers. Those provisions allow a private individual standing to bring actions on behalf of the government, alleging that the defendant has submitted a fraudulent claim for payment to the federal government. The government may join in the lawsuit, but if the government declines to do so, the individual may choose to pursue the lawsuit alone. The government must be kept apprised of the progress of the lawsuit. Whether or not the federal government intervenes in the case, it will receive the majority of any recovery. In addition, various states have enacted laws modeled after the federal False Claims Act.

Even though we believe we are in material compliance with these laws and regulations, it is possible the government may determine that we are not in compliance, in which case we could be subject to civil and criminal penalties.

The Physician Payment Sunshine Act

The Physician Payment Sunshine Act, or the Sunshine Act, which was enacted as part of the ACA, requires applicable manufacturers of drugs, devices, biologicals, or medical supplies covered under Medicare, Medicaid or the Children's Health Insurance Program, to report annually to HHS payments or other transfers of value made by that entity, or by a third party as directed by that entity, to physicians and teaching hospitals, or to third parties on behalf of physicians or teaching hospitals, during the course of the preceding calendar year. Similar reporting requirements have also been enacted on the state level in the United States, and an increasing number of countries worldwide either have adopted or are considering similar laws requiring transparency of interactions with health care professionals. In addition, some states such as Massachusetts and Vermont impose an outright ban on certain gifts to physicians.

The final rule implementing the Sunshine Act, published on February 8, 2013, requires data collection on payments to begin on August 1, 2013. Failure to comply with the reporting requirements can result in significant civil monetary penalties ranging from $1,000 to $10,000 for each payment or other transfer of value that is not reported (up to a maximum per annual report of $150,000) and from $10,000 to $100,000 for each knowing failure to report (up to a maximum per annual report of $1 million). We believe that our laboratory is not an "applicable manufacturer" as that term is defined in the final rule implementing the Sunshine Act, and, therefore, we are not required to collect data on and report these payments. However, we cannot be certain that regulators will agree with our position. If we are deemed to be an applicable manufacturer subject to the Sunshine Act, we could be subject to civil monetary penalties for failing to comply with the requirements.

These laws could affect our promotional activities by limiting the kinds of interactions we could have with hospitals, physicians or other potential purchasers or users of our tests. Both the disclosure laws and gift bans could impose administrative, cost and compliance burdens on us.

New Medicare Reimbursement Methodology Under PAMA

The Protecting Access to Medicare Act ("PAMA"), which became law on April 1, 2014, significantly reforms the way in which the Medicare program will pay for clinical laboratory services going forward. Under PAMA, starting in 2017, CMS will be required to base its payments to clinical laboratories for diagnostic tests on the amounts that that are being paid by commercial health insurance plans for such tests. On October 1, 2015, CMS issued a proposed rule to implement PAMA that would require applicable laboratories to begin reporting the amounts that they are paid for their clinical laboratory tests by private health insurers to CMS, beginning in the first quarter of 2016. Based on the data reported, CMS would, in general, calculate weighted median payments for each test, and use these amounts as new Clinical Laboratory Fee Schedule ("CLFS") rates beginning in 2017. PAMA provides that, for the first two years, (that is, 2017 through 2019), a payment price cannot be reduced by more than 10 percent per year and thereafter, through 2022, a test payment cannot be reduced by more than 15 percent per year. PAMA authorizes CMS to impose civil monetary penalties of up to $10,000 per day for each failure to report or each misrepresentation or omission in reporting applicable information to CMS. Because no final rule has yet been published, the ultimate impact of PAMA and its implementing regulations on our business remains unclear.

Food and Drug Administration

The FDA regulates the sale or distribution in interstate commerce, of medical devices, including in vitro diagnostic test kits. The information that must be submitted to the FDA in order to obtain clearance or approval to market a new medical device varies depending on how the medical device is classified by the FDA. Medical devices are classified into one of three classes on the basis of the controls deemed by the FDA to be necessary to reasonably ensure their safety and effectiveness. Class I devices are subject to general controls, including labeling, listing, registration, and reporting. It may also include pre-market notification and adherence to the FDA's quality system regulation, which are device-specific good manufacturing practices. Class II devices are subject to general controls and special controls, such as performance standards and post-market surveillance. Class III devices are subject to most of the previously identified requirements as well as to PMA. Most in vitro diagnostic kits are regulated as Class I or Class II devices. Entities that fail to comply with FDA requirements can be liable for criminal or civil penalties, recalls, seizures, orders to cease manufacturing and restrictions on labeling and promotion.

The FDA presently requires clearance or approval of diagnostic test kits that are sold to laboratories, hospitals and doctors, considering them to be medical devices. However, diagnostic tests that are developed and performed by a CLIA-certified reference laboratory, known as "home-brew," "in-house" or LDTs have not been regulated by FDA to date. The FDA has stated that it has the power to regulate LDTs such as the ones that we develop. Nevertheless, it has exercised enforcement discretion and not regulated most LDTs performed by high complexity CLIA certified laboratories. It is possible, perhaps likely, that FDA will decide to more actively regulate LDTs, which could lead to pre-market and post-market obligations. Section 1143 of the Food and Drug Administration Safety and Innovation Act, signed by the President on July 9, 2012, requires FDA to notify Congress at least 60 days prior to issuing a draft or final guidance regulating LDTs and provide details of the anticipated action.

Class II devices are subject to FDA's general controls, and any other special controls as deemed necessary by FDA to provide reasonable assurance of the safety and effectiveness of the device. Pre-market review and clearance by FDA for Class II devices are generally accomplished through the 510(k) pre-market notification procedure. Pre-market notification submissions are subject to user fees, unless a specific exemption applies. To obtain 510(k) clearance for a medical device (or for certain modifications to devices that have received 510(k) clearance), a manufacturer must submit a pre-market notification demonstrating that the proposed device is substantially equivalent to a previously cleared 510(k) device or to a pre-amendment device that was in commercial distribution before May 28, 1976, or a predicate device, for which FDA has not yet called for the submission of a PMA application. In making a determination that the device is substantially equivalent to a predicate device, FDA compares the proposed device to the predicate device or predicate devices and assesses whether the subject device is comparable to the predicate device or predicate devices with respect to intended use, technology, design and other features which could affect the safety and effectiveness. If FDA determines that the subject device is substantially equivalent to the predicate device or predicate devices, the subject device may be cleared for marketing. FDA's 510(k) clearance pathway generally takes from three to twelve months from the date the application is completed, but can take significantly longer. Moreover, in January 2011, FDA announced twenty-five specific action items it intended to take to improve transparency and predictability of the 510(k) program. We anticipate that the changes may also result in additional requirements with which manufacturers will need to comply in order to obtain or maintain 510(k) clearance for their devices. These additional requirements could increase the costs or time for manufacturers' seeking marketing clearances through the 510(k) process. Moreover, the 510(k) process could result in a not-substantially equivalent determination, in which case the device would be regulated as a Class III device, discussed below.

Class III devices are those devices which are deemed by FDA to pose the greatest risk, such as life-sustaining, life-supporting or implantable devices, have a new intended use, or use advanced technology that is not substantially equivalent to that of a legally marketed device. Reasonable assurance of the safety and effectiveness of Class III devices cannot be assured solely by the general controls and the other requirements described above. These devices are required to undergo the PMA process in which the manufacturer must demonstrate reasonable assurance of the safety and effectiveness of the device to FDA's satisfaction. A PMA application must provide extensive preclinical and clinical trial data and also information about the device and its components regarding, among other things, device design, manufacturing and labeling. PMA applications (and supplemental PMA applications) are subject to significantly higher user fees than are 510(k) pre-market notifications. After approval of a PMA, a new PMA or PMA supplement is required in the event of a modification to the device, it's labeling or it's manufacturing process. The PMA process, including the gathering of clinical and nonclinical data and the submission to and review by FDA, can take several years.

A clinical trial may be required in support of a 510(k) submission and generally is required for a PMA application. These trials generally require an effective Investigational Device Exemption from FDA for a specified number of patients, unless the product is exempt from Investigational Device Exemption requirements or deemed a non-significant risk device eligible for more abbreviated Investigational Device Exemption requirements. The Investigational Device Exemption application must be supported by appropriate data, such as animal and laboratory testing results. Clinical trials may begin 30 days after the submission of the Investigational Device Exemption application unless FDA or the appropriate institutional review boards at the clinical trial sites place the trial on clinical hold.

After a device is placed on the market, regardless of the classification or pre-market pathway, it remains subject to significant regulatory requirements. Even if regulatory approval or clearance of a medical device is granted, FDA may impose limitations or restrictions on the uses and indications for which the device may be labeled and promoted. Medical devices may be marketed only for the uses and indications for which they are cleared or approved. Device manufacturers must also establish registration and device listings with FDA. A medical device manufacturer's manufacturing processes and those of its suppliers are required to comply with the applicable portions of the Quality Systems Regulations, which cover the methods and documentation of the design, testing, production, processes, controls, quality assurance, labeling, packaging and shipping of medical devices. Domestic facility records and manufacturing processes are subject to periodic unscheduled inspections by FDA. FDA also may inspect foreign facilities that export products to the United States.

Failure to comply with applicable regulatory requirements can result in enforcement action by FDA, which may include any of the following sanctions: warning letters, fines, injunctions, civil or criminal penalties, recall or seizure of current or future products, operating restrictions, partial suspension or total shutdown of production, denial of 510(k) clearance or PMA applications for new products, or challenges to existing 510(k) clearances or PMA applications.

If they become regulated by FDA, we believe that our LDTs would likely be regulated as either Class II or Class III devices. It is also possible that some may fall into one Class and some into the other. Accordingly, some level of pre-market review — either a 510(k) or a PMA — would likely be required for each test. While the data requirements are typically greater for Class III devices, the data required for Class II devices has increased, and it is likely that some amount of clinical data (retrospective or prospective or both) would be required for either type of submission. Currently, FDA is undertaking a review of the adequacy of the 510(k) process. It is difficult to predict what changes may result, but it should be assumed that any changes will increase, not decrease, the regulatory requirements.

If the FDA decides to regulate MyPRS® or any future test of ours, it could classify the test as a Class II or Class III device. This would mean that we would have to invest substantial time and resources into obtaining FDA approval and we might have to withdraw the applicable test from the market. This could adversely affect our operations, revenues and our potential to be a profitable or viable entity.

The FDA has stated that it intends to regulate some LDTs as devices. On October 3, 2014, the FDA published a proposed risk-based framework for LDTs, which are tests that are designed, manufactured, and used within a single laboratory. This draft guidance indicates that FDA would like 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. FDA's notice states that FDA does not consider devices to be LDTs if they are designed or manufactured completely, or partly, outside of the laboratory that offers and uses them. The degree to which in-house tests are regulated by the FDA has also been the focus of recent Congressional attention, and Congress is considering the introduction of legislation that would subject at least some such tests to pre-market review or approval by the FDA.

MyPRS® and the other tests being developed by the Company include the use of genes and determine whether a patient falls into a high or low risk for disease recurrence or response to a particular chemotherapy. The Company plans to continue to develop and offer these tests as LDTs unless it becomes clearer that these tests are subject to regulation by the FDA. We will continue to monitor both the FDA and Congress and we intend to comply with any new requirements that may apply.

Good Laboratory Practice ("GLP")

We are subject to various regulatory requirements designed to ensure the quality and integrity of our non-clinical testing processes. Our standard operating procedures are written in accordance with applicable regulations and guidelines for operating in the United States. The industry standards for conducting preclinical laboratory testing are embodied in GLP regulations promulgated by the FDA. In the United States, non-clinical studies intended for FDA submission must be conducted in accordance with GLP regulations; foreign governments may require our North American clients to comply with certain regulatory requirements of other countries (in order to gain approval within these countries), such as regulations promulgated by the Japanese Ministry of Health, Labor and Welfare and Ministry of Agriculture, Forestry and Fisheries, and in Europe, the Organization for Economic Co-operation and Development. GLP regulations specify requirements for facilities, equipment, and professional staff and standardized procedures for conducting studies, including procedures for recording and reporting data and for managing study materials and records. We have established a required quality assurance program that monitors ongoing compliance with GLP regulations by auditing test data and reporting and conducting inspections of testing procedures.

Our business is also subject to regulation under state and federal laws regarding environmental protection and hazardous substances control, such as the Federal Occupational Safety and Health Act, or OSHA, the Environmental Protection Act, and the Toxic Substances Control Act. These regulations, among other things, require work practice controls, protective clothing and equipment, training and other measures designed to minimize exposure to chemicals and transmission of pathogens. We believe that we are in compliance with these and other applicable laws and that the costs of our ongoing compliance will not have a material adverse effect on our business. However, it is possible that the government will find that we are not in compliance with these requirements, which could have an adverse effect on our business and subject us to regulatory sanctions. In addition, statutes and regulations applicable to our business may be adopted which impose substantial costs to assure compliance or otherwise materially adversely affect our operations.

Regulation of Reimbursement and Coverage

Revenues for clinical laboratory testing services come from a variety of sources and depend significantly on the availability of third-party reimbursement, including from the Medicare and Medicaid programs, commercial insurers and managed care organizations. We are currently a Medicare laboratory services provider and intend to become a Medicaid laboratory services provider. We also receive reimbursement from third-party payors for our testing services. As is the case with health care services generally, the majority of payors pay for our testing services at varying levels that may be significantly lower or otherwise differ from our list prices. Obtaining reimbursement from third-party payors is both time consuming and expensive. Payment from third-party payors may not be sufficient to allow us to sell our services on a profitable and competitive basis.

Corporate Practice of Medicine

Numerous states have enacted laws prohibiting business corporations, such as us, from practicing medicine and employing or engaging physicians to practice medicine, generally referred to as the prohibition against the corporate practice of medicine. These laws are designed to prevent interference in the medical decision-making process by anyone who is not a licensed physician. Violation of these laws may result in civil or criminal fines, as well as sanctions imposed against us and/or the professional through licensure proceedings.

Other Regulatory Requirements

Our laboratory is subject to federal, state and local regulations relating to the handling and disposal of regulated medical waste, hazardous waste and biohazardous waste, including chemical, biological agents and compounds, blood and bone marrow samples and other human tissue. Typically, we use outside vendors who are contractually obligated to comply with applicable laws and regulations to dispose of such waste. These vendors are licensed or otherwise qualified to handle and dispose of such waste.

OSHA has established extensive requirements relating to workplace safety for health care employers, including requirements to develop and implement programs to protect workers from exposure to blood-borne pathogens by preventing or minimizing any exposure through needle stick or similar penetrating injuries.

Employees

As of March 15, 2016, we have 32 employees, all of whom are full time employees. None of our employees is represented by a labor union, and we consider our relationship with our employees to be good.

Available Information

We file our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, amendments to those reports, and other information with the U.S. Securities and Exchange Commission (“SEC”). We will supply a copy of any document we file with the SEC, without charge. To request a copy, please contact Investor Relations, Signal Genetics, Inc., 5740 Fleet Street, Carlsbad, CA 92008, USA. The public may also read and copy any document we file with the SEC at its public reference facilities at 100 F Street NE, Washington, D.C. 20549, or by calling the SEC at 1-800-SEC-0330, or by accessing the SEC's website at www.sec.gov, where the SEC maintains reports, proxy and information statements and other information regarding us and other issuers that file electronically with the SEC. In addition, as soon as reasonably practicable after such materials are filed with or furnished to the SEC, we make copies available to the public free of charge through our website at www.signalgenetics.com. We also regularly post on our corporate website copies of our press releases as well as additional information about us.

Item 1A. Risk Factors

The business, financial condition and operating results of the Company may be affected by a number of factors, whether currently known or unknown, including but not limited to those described below. Any one or more of such factors could directly or indirectly cause the Company's actual results of operations and financial condition to vary materially from past or anticipated future results of operations and financial condition. Any of these factors, in whole or in part, could materially and adversely affect the Company's business, financial condition, results of operations and stock price. The following information should be read in conjunction with Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and related notes in Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report.

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. Substantially all of our revenue has been derived from our MyPRS® testing services, which were launched in 2011. We have historically incurred substantial net losses. We incurred losses attributable to stockholders of Signal Genetics, Inc. (or members of Signal Genetics LLC, as applicable) of $11.3 million and $7.9 million during the years ended December 31, 2015 and 2014, respectively. Losses are continuing through the date of this Annual Report. We expect our losses to continue as a result of ongoing research and development expenses, increased selling and marketing costs and increased general and administrative costs to support our planned growth. These losses have had, and will continue to have, an adverse effect on our working capital, total assets and stockholders' 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.

Although we are forecasting continued losses and negative cash flows as we continue to fund our selling and marketing activities and research and development programs, we expect that we will have sufficient cash and cash equivalents on hand to support operations for the next 12 to 15 months. We will need to secure additional financing in order to support our future 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 an additional credit facility or strategic partnership coupled with an investment in us or a combination of both.

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. For example, the Centers for Medicare & 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 MACs, 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. 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 general trend toward cost containment as government and private insurers seek to control health care costs through various mechanisms, including imposing limitations on payment rates and negotiating reduced contract rates with service providers, among other things. 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 54% and 84% of our revenue for the years ended December 31, 2015 and 2014, respectively. Accounts receivable from UAMS at December 31, 2015 and 2014 accounted for 19% and 42%, respectively. The aforementioned decrease in revenue is due to the decrease in research funds available at UAMS for such programs. We expect continued declining revenue from the UAMS research programs.

In addition, approximately 10% of our net revenue for the year ended December 31, 2015 was sourced through H. Lee Moffitt Cancer Center and Research Institute (“Moffitt”).

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 CLIA-certified, CAP-accredited and state licensed laboratory in Little Rock, Arkansas. MyPRS® is not assigned a specific CPT code, but our local MAC and Blue Cross Blue Shield (“BCBS”), 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 gaining routine reimbursement.

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 commercial team. 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.

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 MGUS and SMM. 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 through our public offerings. 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 and CAP-accredited laboratory. Because we currently offer these tests and services solely for use within our laboratory, we believe we may market the tests as LDTs. Under current 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. 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. 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 ."

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 use a portion of our cash resources to fund continued clinical development of new products and services. 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, and directors' 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., Genomic Health, Inc., Myriad Genetics Inc., Qiagen N.V., Foundation Medicine, 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 approved two such agents — Xalkori crizotinib from Pfizer Inc. along with its companion anaplastic lymphoma kinase 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 FDA approvals are 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), Neogenomics, Inc., Cancer Genetics, Inc., Bio-Reference Laboratories, Inc. (a division of OPKO Health, 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.

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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 year ended December 31, 2015, our research and development expenses were $1.0 million, or 39% of our net revenue, and our selling and marketing expenses were $2.6 million, or 101% of our net revenue. For the year ended December 31, 2014, our research and development expenses were $347,000, or 8% of our net revenue, and our selling and marketing expenses were $717,000, or 17% 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.

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 are 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 Chief Commercial Officer, Michael C. Cerio, our Chief Medical Officer, Richard A. Bender, M.D., FACP, our Chief Information Officer, Sudipto Sur, Ph.D., 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 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 deteriorates, 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 license our billing and collections web-based software platform from a third-party provider. Our provider may fail in its obligations to maintain the system 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 for our billing. If that third party is unable or unwilling to provide these software systems to us for any reason, 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 collections, 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 sequestration 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. Reimbursement under the CLFS continues to be reduced by 2% as a result of federal government sequestration.

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

Government payors, such as Medicare and Medicaid, have taken steps and can be expected to continue to take steps to control the cost, utilization and delivery of health care services, including clinical laboratory test services.

For example, 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, or collectively, the ACA, which made a number of

substantial changes in the way health care is financed by both governmental and private insurers.

While the ultimate impact of the ACA remains unclear, it is likely to be extensive and may result in significant changes to coverage and reimbursement of our tests. Congress has also proposed a number of legislative initiatives in response to the ACA, including possible repeal of the ACA. At this time, it remains unclear whether there will be any changes made to the ACA, whether to certain provisions or its entirety.

The ACA, among other things, imposed cuts to Medicare reimbursement for clinical laboratories. Medicare updates laboratory payment rates for inflation based on the CPI. The ACA included a “productivity adjustment” to reduce the CPI update. For 2015, the productivity adjustment for the CLFS was -0.6 percent. In addition, the ACA included an additional 1.75 percent reduction in the CPI update for clinical laboratories for the years 2011 through 2015. The annual update for 2015 in CLFS rates following the productivity adjustment and reduction of 1.75 percentage points was -0.3 percent.

In addition, on February 22, 2012, the President signed the Middle Class Tax Relief and Job Creation Act of 2012 (“MCTRJCA”), which, among other things, mandated an additional change in Medicare reimbursement for clinical laboratory services. This legislation required the Center for Medicare and Medicaid Services (“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 subsequent years.

Such legislative changes have negatively impacted payments for clinical laboratory services since 2012. MACs have the authority to apply these cuts to locally determined payments for tests, such as MyPRS®, that are reported using unlisted CPT codes. Thus, even though we use an unlisted CPT code to bill for MyPRS® and reimbursement is determined by the local MAC, such legislative changes could affect our reimbursement. The full impact on our business of such legislative initiatives is uncertain.

In addition, many of the CPT codes that we may use to bill our tests in the future are periodically revised by the AMA. The adoption of analyte specific codes allows payors to better identify tests being performed, resulting in potential changes to coverage and reimbursement. In the 2014 Final Medicare CLFS Rule, CMS announced that it will keep the new molecular codes on the CLFS. CMS also announced that it would price the new codes using a “gapfilling” process by which it refers the codes to the MACs to allow them to determine an appropriate price. In addition, CMS also stated that it would 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. Thus, payment levels and the methodology for determining payment by Medicare and commercial health plans remain largely unresolved. Furthermore, CMS has the authority to revise payment rates for all tests paid under the CLFS, including imposing payment reductions. Even though we use an unlisted CPT code to bill for MyPRS® and reimbursement is determined by the local MAC, our future reimbursement could be adversely affected by any number of CMS policy or payment changes. For example, 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. Whether Medicare and other payors will establish positive or adequate coverage policies or reimbursement rates remains uncertain.

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The "Protecting Access to Medicare Act of 2014" ("PAMA"), which was signed into law on April 1, 2014, contained provisions that significantly affect Medicare payment for tests that are reimbursed under the CLFS. PAMA states that, 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 certain laboratories, starting in 2016, and submitted to CMS so that market-based payment rates can be calculated. PAMA further states that, beginning in 2017, the Medicare payment rate for each clinical diagnostic lab test will be equal to the weighted median amount for the test from the most recent data collection period. New tests will generally be paid using the crosswalk or gapfilling methodology described elsewhere in this Annual Report. 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 HHS published a proposed rule that would implement these PAMA reforms on October 1, 2015. The timing and content of a final rule remain highly uncertain. Under the proposed rule, reporting by "applicable laboratories" would begin on January 1, 2016, and would include private pay rate and volume data for the last two calendar quarters of 2015. We expect that we will likely be considered an "applicable laboratory." Although the new reimbursement methodology established by PAMA is expected to generally result in relatively lower Medicare reimbursement for clinical diagnostic laboratory tests than has been historically available under the CLFS, the impact of this law and implementing regulations, if any, on Medicare payment for MyPRS® or any test we might develop and commercialize in the future remains 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, but they 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.

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 coverage and reimbursement 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.

During the years ended December 31, 2015 and 2014, respectively, we derived 19% and 7% of our total revenue from private insurance, including managed care organizations and other health care insurance providers, 31% and 17% from government payor programs, most of which was derived from Medicare, and 50% and 76% 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.

In some circumstances, being contracted with private third-party payors may limit the amount of reimbursement.

We are currently considered a “non-contracted 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 contracted provider in the future, the amount of overall reimbursement we would receive may decrease because we could 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 may 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. Because we are also CAP-accredited, we are subject to published accreditation standards to which we must conform in order to maintain our accreditation, and subject to periodic unannounced laboratory audits.

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 be sure 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. On October 3, 2014, the FDA published a proposed risk-based framework for LDTs, which are tests that are designed, manufactured, and used within a single laboratory. This draft guidance indicates that FDA would like 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. FDA’s notice states that FDA does not consider devices to be LDTs if they are designed or manufactured completely, or partly, outside of the laboratory that offers and uses them. 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 final 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 a final 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 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 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 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 the ACA, 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, which may apply more broadly, contain additional restrictions, or carry different types of penalties.

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 or other 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, the ACA 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, the ACA 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. The ACA and final regulations promulgated thereunder also require Medicare Part A and B providers and suppliers to report and return Medicare overpayments by the later of 60 days after the date on which the overpayment was identified or, if applicable, the date any corresponding cost report is due. Overpayments are considered to be “identified” when the provider or supplier has or should have, through the exercise of reasonable diligence, determined that it has received an overpayment, and quantified the amount of the overpayment. The ACA also provides that claims that include items or services resulting from a violation of the Anti-Kickback Statute constitutes a false or fraudulent claims for purposes of the False Claims Act. 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.

Anti-Kickback Statutes

The federal Anti-Kickback Statute establishes criminal prohibitions against and civil penalties for the knowing and willful solicitation, receipt, offer or payment of any remuneration, whether direct or indirect, in return for, to induce, or to arrange for the referral of patients or the ordering or purchasing of items or services payable in whole or in part under Medicare, Medicaid or other federal health care programs. Sanctions for violations of the Anti-Kickback Statute include criminal and civil penalties, such as imprisonment and/or criminal fines of up to $25,000 per violation, and civil penalties of up to $50,000 per violation and up to three times the amount received from the health care program, and exclusion from the Medicare, Medicaid and other federal health care programs.

The Office of Inspector General ("OIG") has the authority to promulgate regulations referred to as "safe harbors" that define certain business relationships and arrangements that would not be subject to civil sanction or criminal enforcement under the Anti-Kickback Statute. Failure to comply with a safe harbor provision does not make the activity illegal. Rather, the safe harbors set forth specific criteria that, if fully met, will assure the entities involved of not being prosecuted criminally or civilly for the arrangement under the Anti-Kickback Statute.

Many states also have enacted statutes similar to the Anti-Kickback Statute, which may include criminal penalties, applicable to referrals of patients regardless of payor source, and may contain exceptions different from state to state and from the exceptions to the federal Anti-Kickback Statute.

False Claims Act and Related Criminal Provisions

The False Claims Act imposes civil penalties for knowingly making or causing to be made false claims with respect to governmental programs, such as Medicare and Medicaid, for services billed but not rendered, or for misrepresenting actual services rendered, in order to obtain higher reimbursement. Under the interpretation of certain courts, claims submitted for services furnished in violation of the Anti-Kickback Statute or Stark Law could also violate the False Claims Act. Moreover, private individuals may bring qui tam or "whistle blower" suits against providers under the False Claims Act, which authorizes the payment of a portion of any recovery to the individual bringing suit. Such actions are initially required to be filed under seal pending their review by the Department of Justice. The False Claims Act generally provides for the imposition of civil penalties of $5,500 to $11,000 per claim and for treble damages, resulting in the possibility of substantial financial penalties for small billing errors that are replicated in a large number of claims, as each individual claim could be deemed to be a separate violation of the False Claims Act. Some states also have enacted statutes similar to the False Claims Act which may include criminal penalties, substantial fines, and treble damages. The Social Security Act provides financial incentives to states that enact state false claims acts that meet specified requirements. The OIG, in consultation with the Attorney General of the United States and the Department of Justice, determines whether a state false claims act meets these enumerated requirements to qualify for the added financial incentive.

Civil Monetary Penalties Law

Individuals or entities who have among other things (1) directly submitted, or caused to be submitted, claims which are improper or false; (2) arranged or contracted with an individual or entity that the person knows or should know is excluded from participation in federal health care programs; or (3) offered or received kickbacks may also be subject to monetary penalties or exclusion under the Civil Monetary Penalties Law ("CMPL"), at the discretion of the OIG. Penalties are generally not more than $10,000 for each item or service. However, under the CMPL, violators of the federal Anti-Kickback Statute provisions may also be subject to additional civil money penalties of $50,000 per violation. Violators are also subject to an assessment of up to three times the amount claimed for each item or service in lieu of damages sustained by the United States or a state agency because of such claim, or damages of up to three times the total amount of remuneration offered, paid, solicited, or received. In addition, any person or entity who violates this section may be excluded from participation in federal and state health care programs.

Stark Law

The original Ethics in Patient Referrals Act of 1989, commonly referred to as the Stark Law, was enacted as part of the Omnibus Budget Reconciliation Act ("OBRA"), of 1989, and prohibited a physician from referring Medicare patients for clinical laboratory services to entities with which the physician (or an immediate family member) has a financial relationship, unless an exception applies. Sanctions for violations of the Stark Law may include denial of payment, refund obligations, civil monetary penalties and exclusion of the provider from the Medicare and Medicaid programs. In addition, the Stark Law prohibits the entity receiving the referral from filing a claim or billing for services arising out of the prohibited referral.

Provisions of OBRA 1993, known as “Stark II,” amended the Stark Law to revise and expand upon various statutory exceptions, expanded the services regulated by the statute to a list of “Designated Health Services,” and expanded the reach of the statute to the Medicaid program. Although CMS published Phase III of the Stark regulations on September 5, 2007, intending Phase III to be the final phase of the Stark rulemaking process, CMS continues to address the Stark Law as part of its annual rulemaking process for reimbursement under the Medicare Part B Physician Fee Schedule or under the Inpatient Prospective Payment System.

Finally, many states in which we operate have enacted self-referral statutes similar to the Stark Law. Such state self-referral laws may apply to referrals of patients regardless of payor source and may contain exceptions different from each other and from those contained in the Stark Law.

The Health Insurance Portability and Accountability Act of 1996

HIPAA expanded federal fraud and abuse laws by increasing their reach to all federal health care programs, establishing new bases for exclusions and mandating minimum exclusion terms, creating an additional statutory exception to the Anti-Kickback Statute for risk-sharing arrangements, requiring HHS to issue advisory opinions, increasing civil money penalties to $10,000 per item or service and assessments to three times the amount claimed, creating a specific health care fraud offense and related health fraud crimes, and expanding investigative authority and sanctions applicable to health care fraud. HIPAA also prohibits a provider from offering anything of value which the provider knows or should know would be likely to induce a federal health care program beneficiary to select or continue with the provider.

HIPAA includes a health care fraud provision prohibiting knowingly and willfully executing a scheme or artifice to defraud any “health care benefit program,” which includes any public or private plan or contract affecting commerce under which any medical benefit, item, or service is provided to any individual, and includes any individual or entity who is providing a medical benefit, item, or service for which payment may be made under the plan or contract. Penalties for violating this statute include criminal penalties, exclusion from the Medicare and Medicaid programs, freezing of assets and forfeiture of property traceable to commission of a health care fraud.

Other Fraud and Abuse Laws

Our operations are also subject to a variety of other federal and state fraud and abuse laws, principally designed to ensure that claims for payment to be made with public funds are complete, accurate and fully comply with all applicable program rules, and to prevent remuneration in exchange for referrals or purchases of items which may be reimbursed by the government or which may lead to overutilization, corruption of health care provider judgment, or a lack of transparency in costs or charges. Failure to remain in compliance with any of these rules could result in a material adverse effect on our business, financial condition or 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 ("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, (1) establishing an affirmative obligation to provide patient data breach notification in the event of the unauthorized acquisition, access, use or disclosure of unsecured PHI; (2) elaborating upon the standard for "minimum necessary" uses and disclosures of PHI by a covered entity; (3) restricting certain uses of PHI for marketing purposes (by expanding the definition of marketing activities requiring authorization); (4) prohibiting certain sales of PHI; (5) establishing an affirmative obligation to provide an accounting of disclosures made for payment, treatment and health care operations (up to three years made through an electronic health record); (6) requiring covered entities to agree to individuals' requests to restrict disclosure of PHI in certain circumstances; (7) applying the security regulations and certain provisions of the privacy regulations to business associates; and (8) 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 three 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 ("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.

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, and the owner of 14 issued patents (12 issued U.S. patents, one issued European patent validated in nine countries: Switzerland, Germany, Denmark, Spain, France, United Kingdom, Italy, Netherlands, and Sweden, and one issued Japanese patent) and 11 pending patent applications, which include both U.S. and foreign patent applications, relating to various aspects of our technology. Of the 11 pending patent applications, two 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 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 ("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 ("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 ("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," which we refer to as the March 4, 2014 memorandum. 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. On December 16, 2014, the USPTO issued a "2014 Interim Guidance on Patent Subject Matter Eligibility," which we refer to as the 2014 Interim Guidance, for use by USPTO personnel in determining subject matter eligibility in view of recent decisions by the U.S. Supreme Court, which superseded the March 4, 2014 memorandum. On July 2015, the USPTO published an updated guidance document entitled "July 2016 Update on Subject Matter Eligibility" that includes new examples and discussion of relevant issues. 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 the 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. and foreign patents, and pending U.S. and foreign patent 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, (1) these licenses terminate; (2) 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; (3) if the licensed patents or other intellectual property rights are found to be invalid or (4) 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

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 state that:

- 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 will be 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.

The listing standards of NASDAQ provide, among other things, that a company may be delisted if the bid price of its stock drops below $1.00 for a period of 30 consecutive business days. The bid price of our stock has been below $1.00 for a period of greater than 30 consecutive business days. As such, on November 24, 2015, we received a notice from

the NASDAQ Listing Qualifications Department informing us that we must regain compliance with listing requirements or face delisting. In order to regain compliance, at any time before May 23, 2016, the bid price of our common stock must close at a price of at least $1.00 per share for a minimum of 10 consecutive business days. The notice states that NASDAQ will provide us with written notification when our common stock has regained compliance.

If compliance cannot be demonstrated by May 23, 2016, then NASDAQ will decide whether we meet all applicable standards for initial listing on the Capital Market (except the bid price requirement) based on our most recent public filings and market information. The notice states that, if we meet these standards, then we are eligible to have an additional 180 calendar day compliance period. NASDAQ can deny the extension if it does not appear to them that it is possible for us to cure the deficiency. In addition, if we fail to satisfy the continued listing requirements of The NASDAQ Capital Market, such as the corporate governance requirements or the minimum shareholders' equity, publicly held shares or market value of publicly held shares requirements, 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. Further, if we were to be delisted from The NASDAQ Capital Market, our common stock would cease to be recognized as covered securities and we would be subject to regulation in each state in which we offer our securities.

Delisting from NASDAQ could adversely affect our ability to raise additional financing through the public or private sale of equity securities, would significantly affect the ability of investors to trade our securities and would negatively affect the value and liquidity of our common stock. Delisting could also have other negative results, including the potential loss of confidence by employees, the loss of institutional investor interest and fewer business development opportunities.

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 remains less than $5.00 and we are no longer listed on a national securities exchange, our common stock may be deemed a penny stock. 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: (1) the purchaser's written acknowledgment of the receipt of a risk disclosure statement; (2) a written agreement to transactions involving penny stocks; and (3) 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 initial public offering in June 2014, there was no public market for our common stock. The listing of our common stock on the NASDAQ Capital Market does not assure that a meaningful, consistent and liquid trading market exists. Although our common stock is listed on The NASDAQ Capital Market, trading volume in our common stock has been limited and 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, which could result in substantial losses for our stockholders.

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. As a result of this volatility, our stockholders may not be able to sell their common stock at or above the price they paid for it. The market price for our common stock may be influenced by many factors, including:

- issuances of new equity securities pursuant to a future offering, including issuances of preferred stock;
- 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. We maintain a shelf registration statement on Form S-3 with the SEC pursuant to which we may, from time to time, sell up to an aggregate of $50 million of our common stock, preferred stock, debt securities, warrants, rights and units. We have established an "at-the-market" offering pursuant to which we may offer and sell shares of our common stock, if and when our public float increases. Sales of securities under the registration statement will result in dilution of our stockholders and could cause our stock price to fall.

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 non-binding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We have taken advantage of reduced reporting burdens in this Annual Report. In particular, we have not included all of the executive compensation related information that would be required if we were not an emerging growth company. 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.

Since our initial public offering in June 2014, we have incurred significantly increased costs and our management has had to devote substantial time as a result of operating as a public company; and such costs are expected to further increase after we are no longer an "emerging growth company."

As a public company, we 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 have had to devote a substantial amount of time to these compliance initiatives since becoming a public company. Moreover, these rules and regulations have increased our legal and financial compliance costs and have made certain activities more time-consuming and costly.

Because we only recently became a public company, we cannot yet predict or estimate the costs we may incur in the future with respect to these compliance initiatives or the timing of such costs. In addition, 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 ("Section 404"), we will be required to furnish a report by our management on our internal control over financial reporting with our second annual report to be filed with the SEC in 2016. 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, as applicable, 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.

Certain of our net operating loss carryforwards have been limited.

Net operating losses incurred by the Company as of June 17, 2014 and prior to the Corporate Conversion of Signal Genetics LLC into Signal Genetics, Inc. have been used by the members of Signal Genetics LLC to offset gains on other interests and are therefore not able to be carried forward to the Company. The net operating loss carryforward for federal tax purposes held by Signal Genetics, Inc. after the Corporate Conversion through December 31, 2015 totaled $10.6 million.

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Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We currently lease 5,560 square feet of office space in Carlsbad, California, for our corporate headquarters. This lease expires in October 2017. We also lease 2,800 square feet of space in Little Rock, Arkansas for use as a clinical reference laboratory. This lease expires in March 2017. Based on our current operational needs, we believe that our office space and laboratory facilities are adequate for our operations for the near future and do not anticipate any difficulty securing alternative or additional space, as needed, on terms acceptable to us.

Item 3. Legal Proceedings

We are not currently a party to any legal proceedings.

Item 4. Mine Safety Disclosures

Not applicable.

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PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Prior to our initial public offering, no public trades occurred in our common stock. Since June 18, 2014, our common stock has been listed on The NASDAQ Capital Market. The following table sets forth, for the periods indicated, our high and low sales prices on The NASDAQ Capital Market.

	High	Low
Year Ended December 31, 2015:		
Fourth Quarter	$1.24	$0.66
Third Quarter	2.73	0.88
Second Quarter	2.94	1.42
First Quarter	3.97	1.76
Year Ended December 31, 2014:		
Fourth Quarter	$5.00	$2.11
Third Quarter	9.05	4.12
Second Quarter[(1)]	9.99	7.05

(1) From June 18, 2014 through June 30, 2014.

Holders

As of March 15, 2016, we had nine registered holders of record of our common stock. A substantially greater number of holders of our common stock are "street name" or beneficial holders, whose shares of record are held by banks, brokers, other financial institutions, and registered clearing agencies.

Dividend Policy

We do not anticipate paying dividends on our common stock. We currently intend to retain all of our future earnings, as applicable, to finance the growth and development of our business. We are not subject to any legal restrictions respecting the payment of dividends, except that we may not pay dividends if the payment would render us insolvent. Any future determination as to the payment of cash dividends on our common stock will be at our board of directors' discretion and will depend on our financial condition, operating results, capital requirements and other factors that our board of directors considers to be relevant.

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 Securities and Exchange Commission ("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 cash proceeds. Aegis Capital Corp. acted as the sole book-running manager for the offering.

From the closing date of our IPO through September 30, 2015, we used $323,000 to purchase property and equipment, and $5.8 million to fund our cash losses from operations. Therefore, our net cash proceeds from our IPO were expended as of September 30, 2015. 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 and directors for board of directors' fees.

Securities Authorized for Issuance Under Equity Compensation Plans

The information included in Part III, Item 12 under the heading "Securities Authorized for Issuance Under Equity Compensation Plans" is hereby incorporated by reference into this Item 5.

Item 6. Selected Financial Data

The following selected consolidated financial data is derived from our audited consolidated financial statements and should be read in conjunction with the consolidated financial statements and the notes to such statements and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this report. Historical results are not necessarily indicative of the results to be expected in the future.

	Years Ended December 31,	
(in thousands, except share and per share data)	2015	**2014[1][2]**
Consolidated statements of operations data		
Net revenue[3]	$2,538	$4,320
Operating expenses:		
Cost of revenue	2,472	3,366
Research and development	1,002	347
Selling and marketing	2,559	717
General and administrative	7,692	6,857
Gain on legal settlement	—	(100)
Total operating expenses	13,725	11,187
Loss from operations	(11,187)	(6,867)
Interest expense	(141)	(1,023)
Net loss attributable to stockholders of Signal Genetics, Inc./members of Signal Genetics LLC	$(11,328)	$(7,890)
Net loss per common share, basic and diluted	$(1.40)	$(3.50)
Weighted-average number of shares outstanding, basic and diluted	8,091,899	2,255,864

	As of December 31,	
	2015	2014[1][2]
Consolidated balance sheet data		
Cash and cash equivalents	$10,832	$ 5,119
Total assets	12,902	8,089
Note payable – related party	1,105	—
Total liabilities	2,492	2,098
Total stockholders' equity	10,410	5,991

(1) On June 17, 2014, we completed the Corporate Conversion whereby Signal Genetics LLC converted from a limited liability company to a Delaware corporation. Immediately prior to the Corporate Conversion, $27.3 million of our note payable — related party was converted into 2,732,629 newly authorized 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.

(2) On June 23, 2014, we completed our initial public offering of 850,000 shares of our common stock, at $10.00 per share, for net cash proceeds of $6.1 million, which is net of $2.4 million in underwriter commissions and offering expenses.

(3) During the year ended December 31, 2015, net unfavorable changes in estimates were recorded to revenue related to non-contracted revenues recorded in the prior year of $193,000. During the year ended December 31, 2014, net unfavorable changes in estimates were recorded to revenue related to non-contracted revenues recorded in prior years of $380,000, of which $106,000 and $274,000 related to revenues previously recorded during 2012 and 2013, respectively.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Introduction

The following discussion and analysis should be read together with our financial statements and the related notes appearing elsewhere in this report. 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 report.

All references to 2015 and 2014 refer to our calendar years ended December 31, 2015 and 2014, respectively.

Overview

We are a commercial stage, molecular genetic 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 hold an exclusive license to the intellectual property stemming from the renowned research on MM performed at UAMS. Our flagship service offering is the MyPRS® test, which is a microarray-based Gene Expression Profiling ("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 our MyPRS® test aids physicians in selecting the optimal treatment regimen 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. The MyPRS® test is protected by a substantial patent portfolio of issued and pending patents.

Our growth strategy includes the following key elements:

- Expanding the U.S. market penetration of our MyPRS® test by increasing the geographic coverage of our commercial organization.
- Broadening the base of health care insurance companies that have approved reimbursements for MyPRS®.
- Expanding the diagnostic indications for MyPRS® to include asymptomatic monoclonal gammopathy ("AMG"), the precursor conditions to MM.
- Pursuing additional collaborations with pharmaceutical companies who focus on developing therapies to treat MM and its precursor disease.
- Expanding our information technology infrastructure to further improve our customer service experience.
- Continuing to leverage our relationship with UAMS via our exclusive license agreement.
- Expanding our test offering with the addition of other molecular tests useful to physicians who care for MM patients.
- Expanding and leverage our capabilities into additional blood cancer indications.
- Pursuing additional collaborations, mergers and acquisitions, and in-licensing to expand our service offering.
- Continuing to reduce the costs associated with the development, manufacture and interpretation of our proprietary genomic tests and services.

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 ("AR-BCBS"). In order to broaden our coverage policy approval to include a number of the major health care insurance providers in the United States, we have developed a clinical validity and utility dossier and health economic model to present to third-party payors that supports their reimbursement approval. MyPRS® has been studied extensively and there are more than 30 peer-reviewed scientific publications that describe the validity and utility of the test. MyPRS® is one of the most extensively validated genomic assays available today. Further, the MyPRS® assay has been validated on patient cohorts totaling over 4,500 patients, detailed in 17 peer-reviewed publications. Please visit our website at www.signalgenetics.com in the "Publications" section under the "Physician Resources" tab for a list of these publications. These publications were used to help create the aforementioned clinical utility dossier that justifies reimbursement approval by the majority of health care payors.

Other challenges to our growth strategy include: (1) 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) if payors, including our currently contracted payors, decide to reduce payment for MyPRS®.

We operate in only one segment and, currently, have no operations outside of the United States.

2015 Highlights

- In February 2015, we completed a follow-on offering of 3,696,427 shares of our common stock, including the underwriters' overallotment, at $2.80 per share, for net cash proceeds of $9.1 million, which is net of $1.3 million in underwriter commissions and estimated offering expenses.
- During September 2015, we sold 2,734,983 shares of common stock pursuant to a shelf registration through an "at-the-market" equity offering program (the "ATM program") for total cash proceeds of $4.0 million, which is net of $429,000 in sales agent's commissions and offering expenses. Due to the size of our public float, the current ATM program has been completed, unless and until our public float increases.
- In June 2015 we executed a Master Service Agreement ("MSA") with a leading pharmaceutical company. Under the MSA, our proprietary MyPRS® genetic test will be run across multiple clinical trials in connection with the development of novel treatments for patients with multiple myeloma. During 2015, we began the first of four studies as part of the MSA. Under the agreement, MyPRS® will help inform patterns of response to novel therapy regimens with the aim of enabling physicians to better manage multiple myeloma patients based on their specific genetic profile.
- In August 2015, we announced that we executed an agreement with America's Choice Provider Network ("ACPN"). Under the terms of the agreement, our MyPRS® assay will be offered through ACPN's proprietary network which covers over 22 million patients across the United States. We expect increased reimbursement support for our assay through agreements such as this to have a positive impact on our revenue generation over the long term.
- In September 2015, we announced that we executed a master services agreement ("MSA") with a leading biopharmaceutical company. The first two projects under this MSA, which commenced during 2015, will deploy our proprietary MyPRS® test to inform the customers' clinical stage development program of a novel treatment, including potential combination therapies with current drugs, for patients with multiple myeloma.
- During the fourth quarter of 2015 we executed agreements with additional preferred provider organizations ("PPO"). Under the terms of the agreements, our MyPRS® assay will be offered through additional PPO networks including the Stratose, USA Managed Care Organization, and Evolutions Healthcare Systems PPO networks. Together with the PPO agreement we announced in August 2015 and our other payor relationships with Medicare and Blue Cross Blue Shield of Arkansas, the covered lives within our universe has increased to over 155 million patients in the United States.
- In November 2015 a peer-reviewed paper highlighting the clinical utility of MyPRS® was published on-line in the journal *Leukemia.* In the paper, titled "The Clinical Value of Molecular Subtyping Multiple Myeloma Using Gene Expression Profiling", authored by N. Weinhold *et al*., researchers examined a dataset of 1,217 multiple myeloma patients treated at UAMS to gauge the impact of novel therapies on molecular and risk subgroups. As part of the research, MyPRS® (also known as the GEP70 test) was used to classify patients into risk categories and molecular subtypes. The outcome of this research demonstrates the importance of classifying the risk category and subtype of a patient's cancer in order to appropriately manage the course of treatment.

Sources of Revenues and Expenses

Revenues

We generate revenues primarily from the completion of tests processed through our CAP-accredited and CLIA certified laboratory when test results are delivered to ordering physicians. During 2015 and 2014, we had two major customers, UAMS and Moffitt. Revenue sourced either from or through UAMS accounted for 54% and 84% of our net revenue during 2015 and 2014, respectively. Revenue sourced through Moffitt accounted for approximately 10% and 9% of our net revenue during 2015 and 2014, respectively.

A significant portion of our revenues consist of 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 report revenues from contracted payors and directly billed customers based on the contractual rate. Medicare reimburses MyPRS® based on the local coverage determination at approximately $1,900 per test and AR-BCBS reimburses MyPRS® based on the contractual rate of approximately $2,000 per test. Revenues from non-contracted payors are reported based on the amount expected to be collected, which is based on the historical collection experience of each payor or payor group, as appropriate. Our estimates of net revenue are subject to change based on the contractual status and payment policies of third-party payors with whom we deal as well as anticipated changes in the healthcare industry and related legislation. 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.

Cost of Revenue

Our cost of revenue consists primarily of the cost of materials and supplies, labor, and other costs associated with processing specimens including pathological review, quality control analyses, delivery charges necessary to render an individualized test result, depreciation, amortization and royalty expense. Costs associated with performing tests are recorded as the tests are processed.

Research and Development Expenses

Our research and development expenses primarily include personnel costs, laboratory supplies, reagents, consulting costs associated with developing and validating new testing services and sponsored research agreements with leading academic institutions for clinical trials and other studies to further validate the use of MyPRS® for MM and AMG.

Selling and Marketing Expenses

Our selling and marketing expenses consist primarily of sales commissions and support costs, salaries and related employee benefits, travel, and marketing costs for our commercial, business development and managed care functions.

General and Administrative Expenses

Our general and administrative expenses consist primarily of personnel costs, professional service fees and other costs related to our being a publicly-traded company.

Interest Expense

Interest expense primarily reflects interest on our notes payable - related party.

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 financial statements require significant judgments and estimates. For additional information relating to these and other accounting policies, see Note 2 to our audited financial statements, appearing elsewhere in this report.

Revenue Recognition

We recognize revenue from testing services 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.

Revenues are recorded on an accrual basis when the contractual obligations are completed as tests are 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. Revenues from Medicare, contracted insurance companies and directly billed customers are reported based on the contractual rate. The difference between the amounts billed and the contractual rates from Medicare and contracted insurance companies are recorded as contractual allowances at the same time the revenue is recognized, to arrive at reported net revenue. The contractual rate is based on established agreed upon rates between us and the respective payor. Directly billed customers are invoiced at the contractual rate by us. Revenues from non-contracted insurance companies are reported based on the amount expected to be collected, which is based on the historical collection experience of each payor or payor group, as appropriate, and anticipated effects of changes in the healthcare industry, if any. 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. We do not record revenue from individuals for billings 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 to date.

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 estimated revenue as accurate as possible based on its most recent collection experience with each third-party payor. We regularly review our historical collection experience for non-contracted payors and anticipated changes in the healthcare industry and adjust expected revenues for current and subsequent periods accordingly, including

previously recorded revenues related to outstanding accounts receivable for such non-contracted payors. During 2015, net unfavorable changes in estimates were recorded to revenue related to non-contracted revenues recorded in the prior year of $193,000 and represented 32% of the total non-contracted revenues for 2014. Although we regularly refine our estimates to reflect recent historical collection experience, if we have a similar percentage reduction of 32% in our estimated amount to be collected from non-contracted payors on the uncollected accounts receivable from non-contracted payors at December 31, 2015 of $131,000, this could result in a $42,000 unfavorable change in our financial position and results of operations.

Accounts Receivable, Contractual Allowances and Allowance for Doubtful Accounts

We record accounts receivable net of contractual allowances and an allowance for doubtful accounts. At December 31, 2015 and 2014, contractual allowances were $2.1 million and $1.5 million, respectively. We estimate an allowance for doubtful accounts based on the aging of the accounts receivable and the historical collection experience for each of our contracted payors. When the amounts are determined to be uncollectible, they are expensed as bad debt and subsequently charged-off against the allowance. During 2015 and 2014, we recognized $33,000 and $177,000 in bad debt expense, respectively. At December 31, 2015 and 2014, there were no allowances for doubtful accounts. Uncollectability of accounts receivable for a non-contracted payor is typically a reflection of an estimate in excess of actual collections and is adjusted in the period of collection as a change in estimate resulting in an increase in contractual allowances and, therefore, a reduction in current period net revenue.

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 December 31, 2015 and 2014. 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:

	December 31, 2015				
(in thousands)	0 - 30 Days	31 - 60 Days	61 - 90 Days	Over 90 Days	Total
Medicare	$116	$55	$32	$16	$219
Contracted insurance companies	13	—	9	16	38
Direct bill	101	12	24	14	151
Non-contracted insurance companies	336	256	215	1,244	2,051
Accounts receivable, gross	566	323	280	1,290	2,459
Less: contractual allowances	(347)	(245)	(230)	(1,243)	(2,065)
Accounts receivable, net	$219	$78	$50	$47	$394

	December 31, 2014				
(in thousands)	0 - 30 Days	31 - 60 Days	61 - 90 Days	Over 90 Days	Total
Medicare	$79	$44	$51	$82	$256
Contracted insurance companies	12	4	4	52	72
Direct bill	161	282	67	—	510
Non-contracted insurance companies	182	142	160	1,216	1,700
Accounts receivable, gross	434	472	282	1,350	2,538
Less: contractual allowances	(162)	(113)	(127)	(1,048)	(1,450)
Accounts receivable, net	$272	$359	$155	$302	$1,088

The days sales outstanding (“DSO”) was 53 days at December 31, 2015 compared to 84 days at December 31, 2014. The decrease in DSO is primarily due to improved collection of Medicare and non-contracted third party payors

during 2015, reflective of improved collection procedures internally. Net revenues from private insurance payors was 19% and 7% of total net revenue during 2015 and 2014, respectively. Since these customers are slower to pay, we would expect our DSO's to increase as net revenues from these customers increase.

Stock-Based Compensation

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

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 otherwise 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 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.

Results of Operations

Year Ended December 31, 2015 Compared to the Year Ended December 31, 2014

Net Revenue

Net revenue was $2.5 million during 2015, a decrease of $1.8 million, or 41%, compared to $4.3 million during 2014. Net revenue and tests billed during 2015 and 2014 were as follows:

	Net Revenue				Tests Billed			
			Increase (Decrease)				Increase (Decrease)	
(dollars in thousands)	2015	2014	$	%	2015	2014	#	%
UAMS-sourced:								

Research programs	$954	$3,114	$(2,160)	(69)%	1,170	3,225	(2,055)	(64)%
Clinical patient revenue	412	504	(92)	(18)%	346	448	(102)	(23)%
Other US hospitals and direct billed customers	1,052	668	384	57 %	921	511	410	80 %
Pharmaceutical services	120	34	86	253%	59	12	47	392%
Total	$2,538	$4,320	(1,782)	(41)%	2,496	4,196	(1,700)	(41)%

The net revenue recognized and number of tests reported and billed under the UAMS research programs decreased 69% and 64% respectively, in 2015 compared to 2014 primarily due to the decrease in funds available at UAMS for such programs. We expect continued declining revenue from the UAMS research programs.

The number of tests we reported and billed for UAMS-sourced clinical patients decreased 23% in 2015 when compared to 2014 due to the normal fluctuation in patient census. Net revenue recognized for such tests billed decreased 18% in 2015 when compared to 2014. The decrease in net revenue related to the decreased test volume, offset by $73,000 of net unfavorable prior year adjustments, booked in 2015, related to revenues recorded in the prior year.

The number of tests we billed for other U.S. hospitals and direct billed customers increased 80% in 2015 when compared to 2014 due to an increase in new hospital customers, a direct result of the ongoing expansion of our commercial organization and our increased marketing efforts. Net revenue recognized for such tests increased 57% in 2015 when compared to 2014. The increase in net revenue was driven by the increased test volume offset by a reduction in test average selling price estimates used to calculate revenue for billings to non-contracted insurance payors. Additionally, a net unfavorable prior year adjustment of $120,000 was booked in 2015, relating to revenues recorded in the prior year. The reduction in current year pricing estimates for these non-contracted payors was in anticipation of the potential impact of the Affordable Care Act on utilization, coupled with a review of our historical collection trends, including non-contracted payors for whom we do not have collection experience. We expect the number of new payors to continue to increase, which may affect our collection trends and, therefore, revenue estimates for billings to non-contracted insurance payors.

The net revenue recognized and number of tests reported and billed under service agreements with pharmaceutical customers increased 253% and 392%, respectively, in 2015 compared to 2014 due to the master laboratory service agreements executed with two pharmaceutical companies during 2015. We expect revenue from our pharmaceutical services business to grow as testing volume from these two agreements increase. We are pursuing additional agreements with other pharmaceutical companies as well as additional projects with our two current collaborators.

Cost of Revenue

Cost of revenue was $2.5 million or 97% of net revenues, during 2015, a decrease of $894,000, or 27%, compared to $3.4 million, or 78% of net revenues, during 2014. The decrease was attributable to 1) $526,000 in decreased personnel costs, primarily related to $200,000 in decreased stock-based compensation expense, $100,000 in one-time bonuses paid in 2014, $156,000 in labor costs allocated to research and development projects and $109,000 in reduced employee health insurance costs related to changing insurers, and 2) $424,000 in decreased material and supply costs due to a decrease in the total tests performed. These decreases were partially offset by a $56,000 increase in other laboratory related expenses, including depreciation expense.

Research and Development Expenses

Research and development expenses were $1.0 million during 2015, an increase of $655,000, or 189%, when compared to $347,000 during 2014. The increase is due to $470,000 in our increased usage of labor, materials and supplies for research projects, $15,000 in increased consulting services and $170,000 in sponsored research programs related to research to further validate the use of MyPRS® in MM and AMG.

Selling and Marketing Expenses

Selling and marketing expenses were $2.6 million during 2015, an increase of $1.8 million, or 257%, when compared to $717,000 during 2014. The increase was primarily attributed to a $1.4 million increase in personnel costs related to expanding our sales and marketing function and establishing our managed care, commercial and business development functions, and $432,000 of expense for new marketing projects.

General and Administrative Expenses

General and administrative expenses were $7.7 million during 2015, an increase of $835,000, or 12%, when compared to $6.9 million during 2014. The increase was primarily attributable to $1.2 million in increased personnel costs related to hiring our chief financial and information officers, and accounting, internal billing, information technology and administrative staff, $275,000 in additional costs for an incentive plan, $638,000 of increased legal, accounting and insurance expenses related to our being a publicly-traded company for a full year during 2015, partially offset by $1.1 million in decreased stock-based compensation expense and $144,000 in decreased bad debt expense.

Gain on Legal Settlement

In August 2013, we settled a lawsuit in which we were the plaintiff for a tortuous interference claim regarding a potential acquisition, of which $100,000 was recognized as a gain on legal settlement during 2014.

Interest Expense

Interest expense was $141,000 during 2015, compared to $1.0 million during 2014. The decrease was primarily attributable to the Debt Conversion that occurred in June 2014.

Liquidity and Capital Resources

We had cash and cash equivalents of $10.8 million at December 31, 2015 compared to $5.1 million at December 31, 2014. At December 31, 2015, we had working capital of $9.3 million.

On July 10, 2015, we filed a prospectus for the offering, issuance and sale of securities from time to time in one or more offerings (“Shelf Registration”) which was declared effective by the SEC on July 28, 2015. The amount of securities to be sold pursuant to the Shelf Registration is limited by our public float. Concurrently with filing the Shelf Registration, we entered into a sales agreement with Cantor Fitzgerald & Co., to sell shares of our common stock, with aggregate gross sales proceeds of up to $4.45 million, from time to time, through an “at-the-market” equity offering program (the “ATM program”). During September 2015, we sold 2,734,983 shares of common stock pursuant to this registration for total cash proceeds of $4.0 million, which is net of $429,000 in underwriter commissions and offering expenses. Due to the size of our public float, the current ATM program has been completed, unless and until our public float increases.

On February 20, 2015, we completed a public offering of 3,214,285 shares of our common stock, at $2.80 per share, for total cash proceeds of $7.8 million, which is net of $1.2 million in underwriter commissions and estimated offering expenses. On February 26, 2015, the underwriters exercised their overallotment option for 482,142 additional shares of our common stock, for total cash proceeds of $1.3 million, which is net of $95,000 in underwriter commissions.

Prior to our initial public offering ("IPO") in June 2014, our principal sources of cash consisted primarily of borrowings on our note payable to a related party. We received total cash proceeds of $6.1 million from our IPO, which is net of $2.4 million in 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.

We have no material commitments for capital expenditures at this time.

Although we are forecasting continued losses and negative cash flows as we continue to fund our commercialization activities and research and development programs, we currently expect that we will have sufficient cash and cash equivalents on hand to support operations for 12 to 15 months from the date of this report. Going forward, as we continue our expansion, 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. Our financial statements do not include any adjustments that might be necessary if we are unable to continue as a going concern. If we cannot continue as a viable entity, our stockholders may lose some or all of their investment in us.

Operating activities

Cash used by operations during 2015 was $6.9 million, compared to $2.2 million during 2014. Our use of cash during 2015 was primarily a result of our higher net loss during 2015, when compared to 2014. Changes in operating assets and liabilities during 2015 provided cash of $1.1 million, compared to $282,000 during 2014.

During 2015, the provision of cash from changes in operating assets and liabilities of $1.1 million includes a $694,000 decrease in accounts receivable, which reflects a reduction in our DSO from 84 days at December 31, 2014 to 53 days at December 31, 2015, a $633,000 increase in accounts payable and accrued liabilities, primarily due to higher accrued compensation and related expenses, partially offset by a $248,000 reduction in our lease termination/abandonment payable, due to payments made on the terminated lease.

Revenues from non-contracted insurance companies represented 17% and 7% of our total revenues during 2015 and 2014, respectively. Since these customers are slower to pay, our accounts receivable over 90 days will increase if revenues from these customers increase. We do not know if collections will remain at the levels experienced during

2015. Future collections may depend upon our ability to obtain in-network contracts with additional insurance providers.

During 2014, the provision of cash from changes in operating assets and liabilities of $282,000 includes a $383,000 increase in accounts payable and accrued liabilities, primarily due to higher accrued compensation and related expenses, a $178,000 decrease in inventory due to the timing of the receipt of laboratory materials and supplies and a $191,000 decrease in prepaid expenses and other assets, which were partially offset by a $376,000 reduction in our lease termination/abandonment payable due to payments made on the terminated lease. Our DSO at December 31, 2014 remained relatively flat at 84 days when compared to December 31, 2013 at 83 days.

Investing activities

Net cash used by investing activities during 2015 of $95,000 was for the purchase of property and equipment, partially offset by a reduction in our security deposit on a lease.

Net cash used by investing activities during 2014 of $274,000 was primarily for the purchase of property and equipment.

As of this time, we plan to focus on our growth strategies and do not plan to use a material amount of our cash resources for the purchase of property and equipment during 2016.

Financing activities

Net cash provided by financing activities during 2015 of $12.7 million consisted primarily of the net proceeds from our public offerings of common stock in February and September 2015 of $13.1 million, partially offset by $363,000 used to repurchase shares from employees to satisfy tax withholding obligations for restricted stock awards.

Net cash provided by financing activities during 2014 of $7.4 million consisted primarily of $6.6 million in net proceeds from our IPO and $795,000 in net proceeds from our note payable-related party.

Related Party Transactions

During 2014, our then majority member, and current Chairman of our board of directors, through various entities controlled by such member, loaned a net amount of $795,000 to us to support our operations. The secured note bore interest at 8% compounded quarterly, was due on demand and collateralized by substantially all of our assets. Pursuant to the terms of an Exchange Agreement, and prior to the Corporate Conversion, $27.3 million of the Secured 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 $1.0 million as of that date, along with an additional $45,000, which was advanced to pay for certain offering expenses, was reclassified as unsecured amounts due to related party in the consolidated balance sheet. The aggregate amount was non-interest bearing and was due on demand.

On March 6, 2015, our amounts due to related party, aggregating $1,045,000, were converted into an unsecured note payable – related party, bearing interest at 8% per annum and due on demand. The principal amount of the note was increased by $60,000 over the amounts due to related party to $1,105,000 to provide the equivalent of 8% per annum interest for the period of time the amounts due to related party were held as a payable in exchange for a provision that the related party would not call the note prior to June 30, 2015. The increase in the principal amount of the note was deferred and amortized to interest expense over the initial term of the note to June 30, 2015. Interest expense related to this note during the year ended December 31, 2015 was $132,000. The note balance at December 31, 2015 was $1,105,000 and accrued interest payable of $73,000 is included in accrued liabilities in the consolidated balance sheet at December 31, 2015.

Commitments and Contingencies

At December 31, 2015, other than our office and laboratory lease, 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 financial statements.

The JOBS Act

In April 2012, the JOBS Act was enacted. Section 107 of 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. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. The Company has elected to avail itself of the extended transition period for adopting new or revised accounting standards. As a result of this election, our financial statements may not be comparable to companies that comply with public company effective dates.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

As a “smaller reporting company,” we are not required to provide the information required by this Item.

Item 8. Financial Statements and Supplementary Data

The financial statements and supplemental data required by this item are set forth at the pages indicated in Part IV, Item 15(a)(1) of this Annual Report.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

Not applicable.

Item 9A. 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 Annual Report on Form 10-K. Based on that evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that our disclosure controls and procedures were 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.

Management’s Report on Internal Control Over Financial Reporting

Internal control over financial reporting refers to the process designed by, or under the supervision of, our Chief Executive Officer and Chief Financial Officer, and effected by our board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles, and includes those policies and procedures that: (1) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of our assets; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company’s assets that could have a material effect on the financial statements.

Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk.

Management is responsible for establishing and maintaining adequate internal control over our financial reporting, as such term is defined in Rule 13a-15(f) under the Exchange Act. Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting. Management has used the framework set forth in the report entitled “Internal Control — Integrated Framework (2013 Framework)” published by the Committee of Sponsoring Organizations of the Treadway Commission to evaluate the effectiveness of our internal control over financial reporting. Based on its evaluation, management has concluded that our internal control over financial reporting was effective as of December 31, 2015, the end of our most recent fiscal year.

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 fourth quarter of 2015.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Board of Directors and Executive Officers

Our business and affairs are organized under the direction of our board of directors, which currently consists of five members. Set forth below are our directors and executive officers and their respective ages and positions as of the date of this report:

Executive Officers and Directors	Age	Position(s) Held
Bennett S. LeBow	78	Chairman of the Board
Samuel D. Riccitelli	57	President, Chief Executive Officer and Director
Tamara A. Seymour	57	Chief Financial Officer
David A. Gonyer, R. Ph.	52	Director
Douglas A. Schuling	55	Director
Robin L. Smith, M.D.	51	Director

There are no family relationships among any of our directors or executive officers. Set forth below is a summary of the business experience of each of our directors and executive officers identified above and our key employees:

Bennett S. LeBow. Mr. LeBow has served as the Chairman of our board of directors since our inception in January 2010 and was our founding member and the sole manager of Signal Genetics LLC, prior to the Corporate Conversion. Mr. LeBow is the sole partner and has sole voting and dispositive power, of our principal stockholder, LeBow Alpha. Mr. LeBow is a private investor and currently serves as the Chairman and Chief Executive Officer of BSL Capital, Inc. Mr. LeBow also serves as the Chairman of the board of directors of Vector Group, Ltd., where he has been a director since 1986 and where he served as Executive Chairman from January 2006 until his retirement in December 2008. Mr. LeBow served as the Chairman of the board of directors of Borders Group Inc. from May 2010 until January 2012 and Chief Executive Officer from June 2010 until January 2012. In February 2011, Borders Group Inc. filed a petition for protection under Chapter 11 of Title 11 of the United States Bankruptcy Code. Mr. LeBow received a B.A. in electrical engineering from Drexel University.

We selected Mr. LeBow to serve on our board of directors as Chairman due to the perspective and extensive experience he brings as our founder. Mr. LeBow brings to the board of directors significant executive leadership and operational experience in both the private and public sector.

Samuel D. Riccitelli. Mr. Riccitelli has served as our President and Chief Executive Officer since October 2012. He was elected to our board of directors immediately prior to our initial public offering in June 2014. From July 2011 to October 2012, Mr. Riccitelli was an independent consultant. From October 2001 to June 2011, Mr. Riccitelli served as the Executive Vice President and Chief Operating Officer of Genoptix, Inc., a publicly traded diagnostic services company focused on the needs of community hematologists and oncologists. From 1995 to 2001, Mr. Riccitelli served in a number of positions for Becton, Dickinson and Company, including most recently as a vice president and general manager and as a board member for BD Ventures, L.L.C., a venture capital fund. From 1989 to 1994, he served in a number of positions at Puritan-Bennett Corporation, including most recently as general manager. Mr. Riccitelli also served on the board of directors of Exagen Diagnostics, Inc., from October 2011 through September 2014. Mr. Riccitelli received a B.A. in Biology from Washington and Jefferson College and a M.S. Eng. degree from The University of Texas in Mechanical & Biomedical Engineering.

We selected Mr. Riccitelli to serve on our board of directors because he brings to the board of directors extensive knowledge of the life sciences and biotechnology industries. He has served in senior corporate positions of companies in the biotechnology and diagnostic industries. Mr. Riccitelli has led the successful development and commercialization of a broad range of diagnostic services, medical devices, and information based product and services and is a named inventor on eight patents. His business experience provides him with a broad understanding of the operational, financial and strategic issues facing public companies.

Tamara A. Seymour. Ms. Seymour has served as our Chief Financial Officer since August 4, 2014. Prior to joining the Company, Ms. Seymour served as Chief Financial Officer of HemaQuest Pharmaceuticals, Inc., a biotechnology company, beginning in November 2010. From July 2009 through November 2010, Ms. Seymour served as a financial consultant for various life sciences companies. From 2001 to 2009, Ms. Seymour served as Chief Financial Officer and Secretary for Favrille, Inc. (now MMRGlobal, Inc.), a publicly traded biotechnology company focused on developing immunotherapies for hematological malignancies. While at Favrille, she was responsible for various private and public equity and debt financings, including the initial public offering. From 1991 to 2001, Ms. Seymour served as consulting chief financial officer for a number of biotechnology companies. From 1988 through 1991, Ms. Seymour was Director of Finance and Controller with Agouron Pharmaceuticals, Inc. From 1980 through 1988, she worked with Deloitte & Touche LLP and PricewaterhouseCoopers LLP in various positions including audit manager from 1985 – 1988. Ms. Seymour is a Certified Public Accountant. Ms. Seymour received an M.B.A. with an emphasis in Finance from Georgia State University and a bachelor’s degree in Business Administration with an emphasis in Accounting from Valdosta State University.

David A. Gonyer, R. Ph. Mr. Gonyer became a member of our board of directors immediately prior to the listing of our common stock on The NASDAQ Capital Market in June 2014. Mr. Gonyer is a co-founder of Evoke Pharma, Inc., a specialty pharmaceutical company focused primarily on the development of drugs to treat gastrointestinal diseases, and has served as its President and Chief Executive Officer and a member of its board of directors since March 2007. From January 2004 to June 2007, Mr. Gonyer served as Vice President, Strategic and Product Development of Medgenex, Inc., a subsidiary of Victory Pharma, Inc., a biopharmaceutical company focused on acquiring, developing and marketing products to treat pain and related conditions. From April 2000 to December 2004, Mr. Gonyer was a founder and Vice President of Sales and Marketing at Xcel Pharmaceuticals, Inc., a specialty pharmaceutical company focused on neurological disorders. From December 1996 to April 2000, Mr. Gonyer served as Director of Marketing at Elan/Dura Pharmaceuticals, Inc. From 1987 to 1996, Mr. Gonyer held a broad range of management positions in commercial operations, alliance/partnership management, and regional sales at Eli Lilly & Company, a global pharmaceutical company. From 2010 to 2015, Mr. Gonyer served as a member of the board of directors of Neurelis, Inc., a privately held neurological specialty pharmaceutical company. Mr. Gonyer is a Registered Pharmacist and holds a B.Sc. in Pharmacy from Ferris State University School of Pharmacy.

We selected Mr. Gonyer to serve on our board of directors because of his significant management experience, his extensive experience in the pharmaceutical industry and his substantial knowledge with respect to developing and marketing pharmaceutical products.

Douglas A. Schuling. Mr. Schuling became a member of our board of directors immediately prior to the listing of our common stock on The NASDAQ Capital Market in June 2014. From April 1999 through May 2011, when he retired, Mr. Schuling held the position of Executive Vice President and Chief Financial Officer for Genoptix, Inc., a publicly traded specialized laboratory service provider focused on delivering diagnostic services to hematologists and oncologists. Since May 2011, Mr. Schuling has acted as an independent consultant. From 1997 to March 1999, Mr. Schuling held the position of Chief Financial and Operating Officer for Point-of-Care Systems, a venture capital backed clinical information systems company. From 1985 to 1997, Mr. Schuling held various positions at Nellcor Puritan Bennett, a research, development and manufacturing company, specializing in medical equipment and supplies, most recently as Hospital Group Controller. Mr. Schuling received his B.S. degree in accounting from Drake University.

We selected Mr. Schuling to serve on our board of directors because of his extensive knowledge of the life sciences and biotechnology industries and his substantial financial and accounting background, having served as the chief financial officer of two other companies and controller of a third company.

Dr. Robin L. Smith. Dr. Robin Smith became a member of our board of directors immediately prior to the listing of our common stock on The NASDAQ Capital Market in June 2014. From July 2007 to December 2014, Dr. Smith served as Chief Executive Officer of Caladrius Biosciences, Inc. (formerly NeoStem, Inc.). She also served as Chairman of the Board of Caladrius Biosciences, Inc. during that tenure and until December 2015. During her transition for the first 6 months of 2015, she served as Executive Chairman of the Board of Caladrius Biosciences, Inc. Dr. Smith currently serves on the board of directors of MYnd Analytics, Inc. and BioXcel Corporation. Dr. Smith is also the president and chairman of the board of The Stem for Life Foundation. She was also appointed to the board of

directors, Science and Faith STOQ Foundation in Rome and the Capital Formation Committee of the Alliance for Regenerative Medicine, and Chief Executive Officer from July 2007 to December 2014. Dr. Smith also serves on the board of directors of the Palm Beach Country Club from April 2015 to the present.

We selected Dr. Smith to serve on our board of directors because of her expertise in business development and medicine, which includes her extensive and diversified experience serving in executive and board level capacities for various medical enterprises and health care-based entities. Dr. Smith has acted as a senior advisor to, and investor in, companies where she has played a significant role in restructuring and/or growth.

Key Employees

Michael Cerio. Mr. Cerio has served as our Chief Commercial Officer since January 1, 2016 and as Senior Vice President of Commercial Strategy and Business Development from August 2014 through December 2015. Prior to joining us, Mr. Cerio served as an independent consultant building out commercial plans for oncology diagnostics startups with the life science venture capital firm, MPM Capital, Inc., since May 2013. From June 2012 to April 2013, Mr. Cerio served as Consulting Chief Executive Officer for Modulation Therapeutics, Inc., a company that was developing a novel mechanism of action MM drug. From April 2012 to April 2013, Mr. Cerio was the President and Chief Executive Officer of Oncolome Diagnostics, Inc., where he built out commercial plans for oncology diagnostics in myelodysplastic syndrome and non-small cell lung cancer. From 2005 through 2011, Mr. Cerio led the licensing, early commercial strategy and merger and acquisition teams at Genzyme Genetics Corp., the clinical diagnostics business unit of Genzyme Corporation. From 1999 through 2005, Mr. Cerio held business development and licensing roles at BG Medicine and Genaissance Pharmaceuticals Inc. Mr. Cerio holds a B.S. in biology from Syracuse University, a M.S. in microbiology from the University of Connecticut and a M.B.A. from Columbia University.

Richard A. Bender MD, FACP. Dr. Bender has served as our Chief Medical Officer since September 2015. Prior to joining us, from 2012 to 2015, Dr. Bender held consulting roles with various companies, including serving as a long-term Medical Affairs Consultant for Quest Diagnostics. From 2011 to 2012, Dr. Bender served as Senior Vice President, Medical Affairs of Caris Life Sciences. From 2008 to 2011, he held the role of Chief Medical Officer and Vice President of Agendia, Inc. where he helped to develop advocacy, adoption and reimbursement of the company's breast cancer assays. From 2002 to 2008, Dr. Bender served as the Medical Director of Hematology/Oncology at Quest Diagnostics. From 2000 to 2002, he served as Senior Director/Strategic Development Leader in Medical Oncology/Hematology at Johnson & Johnson Pharmaceutical R&D. From 1982 to 2000, he served as Director of Medical Oncology/Hematology at Permanente Medical Group where he helped to manage the second largest cancer center in California. From 1972 to 1978, Dr. Bender served in various roles including Senior Investigator and Attending Physician at the National Cancer Institute in Bethesda, Maryland. Dr. Bender received his M.D. from the University of California, Los Angeles as a Regents Scholar and has a B.A. in Biology from the University of California, Santa Barbara.

Sudipto Sur, Ph.D. Dr. Sur has served as our Chief Information Officer since January 2015. Prior to joining us, Dr. Sur was President of Anssur Corp and Founder and Chief Executive Officer of Miralex Systems Incorporated from 2007 to 2014, firms involved in modeling, analysis and visualization services for large scale scientific, engineering, marketing and business data as well as in the development of complex engineering systems and algorithms in areas such as medical robotics and unstructured large scale imaging. From 2004 to 2007, he served as Director of R&D: Informatics and Systems for Sequenom, Inc. From 2001 to 2004, Dr. Sur was Associate Director, Control Systems and Software for Genoptix, Inc. Dr. Sur holds a Ph.D. in Control Systems and Robotics from the California Institute of Technology and a B.S. in Mechanical Engineering from the Indian Institute of Technology, Bombay.

Ryan Van Laar, Ph.D. Dr. Van Laar has served as our Vice President of Research and Operations since August 2014 and as our Director of Bioinformatics from February 2012 through July 2014. Prior to joining us, Dr. Van Laar served as the Founder and Chief Scientific Officer of ChipDX from June 2008 to February 2012. From May 2008 to January 2012, Dr. Van Laar worked at Regeneron Pharmaceuticals, Inc. as a bioinformatics scientist, facilitated the expansion of their oncology bioinformatics department and had the responsibility for identifying and developing oncology targets and biomarkers. From June 2005 to May 2008, Dr. Van Laar worked as a senior bioinformatician at Agendia where he developed novel diagnostic and prognostic multi-gene assays for breast and colon cancer, including the first FDA-cleared multi-gene oncology test, Mammaprint. Dr. Van Laar’s work has been extensively published in more than 20 peer-reviewed journals and has more than 20 issued patents. Dr. Van Laar received his Ph.D. in molecular biology and bioinformatics from The University of Melbourne, Australia.

Board Composition and Election of Directors

Our board of directors consists of five members: Messrs. LeBow, Riccitelli, Gonyer and Schuling and Dr. Smith. Our board of directors has undertaken a review of its composition and its committees and the independence of each director. Based upon information requested from and provided by each director concerning his or her background, employment and affiliations, including family relationships, our board of directors has determined that each of Messrs. Gonyer and Schuling and Dr. Smith is “independent” under the applicable rules of the SEC and NASDAQ and

that neither Messrs. LeBow nor Riccitelli is “independent” as defined under the such rules. In making such determination, our board of directors considered the relationship that each such non-employee director has with our company and all other facts and circumstances that our board of directors deemed relevant in determining his independence, including the beneficial ownership of our capital stock by each non-employee director. Mr. Riccitelli is not an independent director under these rules because he is our President and Chief Executive Officer and Mr. LeBow is not an independent director under these rules because of the payments that have been made by us to LeBow Alpha and because of his control over LeBow Alpha, our largest stockholder.

Board Committees

Our board of directors has established an Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee.

Audit Committee

The members of our Audit Committee are Mr. Gonyer, Mr. Schuling and Dr. Smith, each of whom has been determined by our board of directors to be independent under applicable NASDAQ and SEC rules and regulations. Mr. Schuling is the chair of the Audit Committee. Our Audit Committee's responsibilities include, among others:

- appointing, approving the compensation of, and assessing the independence of our registered public accounting firm;
- overseeing the work of our independent registered public accounting firm, including through the receipt and consideration of reports from that firm;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures;
- monitoring our internal control over financial reporting, disclosure controls and procedures;
- overseeing our internal audit function;
- discussing our risk management policies;
- establishing policies regarding hiring employees from our independent registered public accounting firm and procedures for the receipt and retention of accounting related complaints and concerns;
- meeting independently with our internal auditing staff, if any, our independent registered public accounting firm and management;
- reviewing and approving or ratifying any related person transactions; and
- preparing the Audit Committee report required by SEC rules.

All audit and non-audit services, other than de minimis non-audit services, to be provided to us by our independent registered public accounting firm must be approved in advance by our Audit Committee.

Our board of directors has determined that Mr. Schuling is an "audit committee financial expert" as defined in applicable SEC rules.

Compensation Committee

The members of our Compensation Committee are Mr. Gonyer, Mr. Schuling and Dr. Smith, each of whom has been determined by our board of directors to be independent under current NASDAQ and SEC rules and regulations. Dr. Smith is the chair of the Compensation Committee. Our Compensation Committee's responsibilities include, among others:

- reviewing and approving annually the corporate goals and objectives applicable to the compensation of the Chief Executive Officer, evaluating at least annually the Chief Executive Officer's performance in light of those goals and objectives, and determining and approving the Chief Executive Officer's compensation level based on this evaluation;
- reviewing and approving the compensation of all other executive officers;
- reviewing and approving and, when appropriate, recommending to the board of directors for approval, incentive compensation plans and equity-based plans, and where appropriate or required, recommending for approval by the stockholders of the Company, the adoption, amendment or termination of such plans; and administering such plans;
- reviewing and approving the executive compensation information included in the Company's annual report on Form 10-K and proxy statement;
- reviewing and approving or providing recommendations with respect to any employment agreements or severance arrangements or plans; and
- reviewing director compensation and recommending any changes to the board of directors.

Nominating and Corporate Governance Committee

The members of our Nominating and Corporate Governance Committee are Mr. Gonyer, Mr. Schuling and Dr. Smith, each of whom has been determined by our board of directors to be independent under current NASDAQ rules. Mr. Gonyer is the chair of the Nominating and Corporate Governance Committee. Our Nominating and Corporate Governance Committee's responsibilities include, among others:

- identifying and recommending candidates to fill vacancies on the board of directors and for election by the stockholders;

- recommending committee and chairperson assignments for directors to the board of directors;

- developing, subject to the board of directors' approval, a process for an annual evaluation of the board of directors and its committees and to oversee the conduct of this annual evaluation;

- overseeing the Company's corporate governance practices, including reviewing and recommending to the board of directors for approval any changes to the documents and policies in the Company's corporate governance framework, including its certificate of incorporation and bylaws; and

- monitoring compliance with the Company's Code of Business Conduct and Ethics, investigating alleged breaches or violations thereof and enforcing its provisions.

Board of Directors Leadership Structure

Mr. LeBow serves as the Chairman of our board of directors. Our board of directors does not have a lead independent director. Our board of directors has determined its leadership structure is appropriate and effective for us, given our stage of development.

Risk Oversight

Our board of directors monitors our exposure to a variety of risks through our Audit Committee. Our Audit Committee charter gives the Audit Committee responsibilities and duties that include discussing with management, the internal audit department and the independent auditors our major financial risk exposures and the steps management has taken to monitor and control such exposures, including our risk assessment and risk management policies.

Code of Business Conduct and Ethics

We have adopted a code of business conduct and ethics that applies to all of our employees, officers (including our principal executive, financial and accounting officers), and directors, including those officers responsible for financial reporting. These standards are designed to deter wrongdoing and to promote honest and ethical conduct. The code of business conduct and ethics and the written charter for the audit committee is available on our website. The information that appears on our website is not part of, and is not incorporated into, this report.

None of our directors or executive officers, nor any associate of such individual, is involved in a legal proceeding adverse to us or any of our subsidiaries.

The Code of Business Conduct and Ethics is available on our website at http://www.signalgenetics.com. Stockholders may request a free copy of our Code of Business Conduct and Ethics from:

Signal Genetics, Inc.

Attention: Investor Relations

5740 Fleet Street

Carlsbad, California 92008

(760) 537-4100

If we make any substantive amendments to the Code of Business Conduct and Ethics or grant any waiver from a provision of the code to any executive officer or director, we will promptly disclose the nature of the amendment or waiver on our website. We will promptly disclose on our website (i) the nature of any amendment to the policy that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions and (ii) the nature of any waiver, including an implicit waiver, from a provision of the policy that is granted to one of these specified individuals, the name of such person who is granted the waiver and the date of the waiver.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the 1934 Act requires our directors and executive officers, and persons who own more than ten percent of a registered class of our equity securities, to file with the SEC initial reports of ownership within 10 days after he or she becomes a beneficial owner, director or officer and reports of changes in ownership of our common stock and other equity securities within two business days after the transaction is executed. Our officers, directors and greater than ten percent stockholders are required by SEC regulations to furnish us with copies of all Section 16(a) forms they file. To our knowledge, based solely on a review of the copies of such reports furnished to us and written representations that no other reports were required, during the fiscal year ended December 31, 2015, all Section 16(a) filing requirements applicable to our officers, directors and greater than ten percent beneficial owners were complied with.

Item 11. Executive Compensation

Summary Compensation Table (2015 and 2014)

The following table sets forth the information as to compensation paid to or earned by our President and Chief Executive Officer and our only other executive officer during the fiscal years noted below whose total compensation exceeded $100,000. The persons listed in the following table are referred to herein as the "named executive officers."

Name and Principal Position	Fiscal Year	Salary	Bonus	**Stock Award(s) (1)**	**Option Award(s) (1)**	All Other Compensation	Total
Samuel D. Riccitelli	2015	$450,000	$—	$—	$—	$ —	$450,000
Chief Executive Officer and President	2014	$450,000	$90,000 (2)	$7,455,110	$—	$ 24,164	$8,019,274
Tamara A. Seymour (3)	2015	$350,000	$—	$—	$ 53,070	$ —	$403,070
Chief Financial Officer	2014	$144,712	$43,414	$468,280	$—	$ 1,398	$657,804

(1) Represents the aggregate grant date fair value of stock awards or options for common stock computed in accordance with FASB ASC Topic 718.

(2) Discretionary bonus granted in March 2015, not made pursuant to any contractual arrangement.

(3) Ms. Seymour has served as Chief Financial Officer since August 4, 2014.

Riccitelli Employment Agreement

We entered into an amended and restated employment agreement (the "CEO Agreement"), with Samuel D. Riccitelli, on June 17, 2014 (the effective date of the CEO Agreement) in connection with our initial public offering. The CEO Agreement was subsequently amended on July 23, 2014, to bring the agreement into compliance with Section 409A of the Internal Revenue Code of 1986, as amended, and the Treasury Regulations and interpretive guidance issued thereunder. The CEO Agreement prohibits Mr. Riccitelli from engaging in any competitive activity, as described in the CEO Agreement, during his employment with us and for a period of one year following termination of his employment for any reason.

The CEO Agreement continues in effect until October 31, 2015, and automatically renews for additional one-year terms on each anniversary of the effective date of the CEO Agreement after October 31, 2015. The CEO Agreement provides for, among other things, an annual base salary of $450,000, payable on a semi-monthly basis. It also provides that Mr. Riccitelli will be reimbursed for all reasonable business expenses, including travel and entertainment expenses incurred in the performance of his duties. During the term of his employment, Mr. Riccitelli is entitled to participate in any annual performance-based incentive compensation programs and 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. Mr. Riccitelli is also entitled to four weeks of paid vacation time and is eligible to receive the same employee benefits as are provided by the Company to other executive employees.

The CEO Agreement also provides for certain post-termination benefits. See “Payments Due Upon Termination of Employment or a Change in Control — Riccitelli Employment Agreement” below for more information.

Seymour Employment Agreement

We entered into an employment agreement (the “CFO Agreement”), with Tamara A. Seymour, on August 4, 2014 (the effective date of the CFO Agreement). The CFO Agreement prohibits Ms. Seymour from engaging in any competitive activity, as described in the CFO Agreement, during her employment with us.

The CFO Agreement continues in effect until the one year anniversary of the effective date of the CFO Agreement, and automatically renews for additional one-year terms on each anniversary of such effective date. The CFO Agreement provides for, among other things, an annual base salary of $350,000, payable on a semi-monthly basis. It also provides that Ms. Seymour will be reimbursed for all reasonable business expenses, including travel and entertainment expenses incurred in the performance of her duties. The CFO Agreement also provides that at the end of each fiscal year of the Company, in addition to Ms. Seymour’s base salary then in effect, she will be eligible to receive a bonus payment of up to 30% of her base salary then in effect, which bonus payment will be awarded in the sole discretion of the Compensation Committee based upon performance goals established by the Compensation Committee during the first ninety (90) days of each fiscal year, which goals shall be set after consultation with the Chief Executive Officer. Pursuant to the terms of the CFO Agreement, Ms. Seymour received an initial restricted stock unit award for 92,000 shares as of the Effective Date. Ms. Seymour is also entitled to four weeks of paid vacation time and is eligible to receive the same employee benefits as are provided by the Company to other executive employees.

The CFO Agreement also provides for certain post-termination benefits. See “Payments Due Upon Termination of Employment or a Change in Control” below for more information.

2014 Stock Incentive Plan

Prior to our initial public offering, we adopted a stock incentive plan (the “2014 Plan”). On March 25, 2015, our Board approved an amendment to the 2014 Plan (the “2014 Plan Amendment”), which was subsequently approved by our stockholders on June 18, 2015, which increased the number of shares of our Common Stock reserved for issuance by 854,601 shares (the “Additional Shares”) from 1,245,399 shares to 2,100,000 shares. The 2014 Plan Amendment also

provides for an annual increase to the total number of shares available for issuance under the 2014 Plan, as amended, on the first day of each calendar year, beginning with January 1, 2016 and ending with the last January 1 during the initial ten-year term of the plan, equal to the lesser of (A) four percent (4%) of the shares of Common Stock outstanding (on an as-converted basis) on the last day of the immediately preceding fiscal year, and (B) such smaller number of shares of Common Stock as determined by the Board. No other amendments were made to the 2014 Plan.

The 2014 Plan, as amended, is otherwise unchanged from the plan as approved by the stockholders prior to our initial public offering, except for the increase in the total authorized shares thereunder and the "evergreen" provision. A description of the 2014 Plan, as amended by the 2014 Plan Amendment, is included below. This is not a complete statement of the 2014 Plan. The full text of the 2014 Plan was attached as Exhibit 10.1 to our Quarterly Report on Form 10-Q, filed on August 14, 2014 with the SEC, which is available at the SEC's website located at www.sec.gov. The 2014 Plan Amendment is attached hereto as Exhibit 10.15.

Purpose. We believe that the 2014 Plan promotes our long-term growth and profitability by (1) providing key people with incentives to improve stockholder value and to contribute to our growth and financial success through their future services, and (2) enabling us to attract, retain and reward the best-available personnel.

Eligibility. Selected employees, officers, directors, and other individuals providing bona fide services to us or any of our affiliates, are eligible for awards under the 2014 Plan. The plan administrator may also grant awards to individuals in connection with hiring, retention, or otherwise before the date the individual first performs services for the Company or an affiliate. However, those awards will not become vested or exercisable before the date the individual first performs those services for us.

Shares subject to the plan. The number of shares of common stock that we may issue pursuant to awards under the 2014 Plan is 2,100,000; provided, however, that no more than 1,680,000 shares of common stock may be issued in the form of full-value awards, and no more than 1,000,000 shares of common stock may be issued pursuant to incentive stock options intended to qualify under section 422 of the Internal Revenue Code. The maximum number of shares of common stock subject to awards of any combination that may be granted under the 2014 Plan during any fiscal year to any one individual will be limited to 750,000 shares. These limits will be appropriately adjusted to reflect any stock dividends, split ups, recapitalizations, mergers, consolidations, share exchanges, and similar transactions. If any award, or portion of an award, under the 2014 Plan expires or terminates unexercised, becomes unexercisable, is settled in cash without delivery of shares, or is forfeited or otherwise terminated, surrendered or canceled as to any shares, or if any shares are repurchased by or surrendered to us in connection with any award, or if any shares are withheld by us, the shares subject to such award and the repurchased, surrendered and withheld shares will thereafter be available for further awards under the 2014 Plan other than incentive stock options.

"Evergreen" provision. The 2014 Plan Amendment also provides for an annual increase to the total number of shares available for issuance under the 2014 Plan, as amended, on the first day of each calendar year, beginning with January 1, 2016 and ending with the last January 1 during the initial ten-year term of the plan, equal to the lesser of (A) four percent (4%) of the shares of Common Stock outstanding (on an as-converted basis) on the last day of the immediately preceding fiscal year, and (B) such smaller number of shares of Common Stock as determined by the Board.

Administration. The 2014 Plan is administered by our board of directors or by a committee or committees as the board may appoint from time to time. The plan administrator has the full authority and discretion to administer the 2014

Plan and to take any action that is necessary or advisable in connection with the administration of the plan, including without limitation the authority and discretion to interpret and administer the plan and any instrument or agreement relating to the plan or any award made thereunder. The plan administrator's determinations will be final and conclusive.

Types of awards. The 2014 Plan provides for grants 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. As of December 31, 2015, 1,404,740 shares have been granted pursuant to awards under the 2014 Plan. Future benefits or amounts that will be allocated to any participant or group of participants are indeterminable at this time because participation and the types of awards (including options) available under the plan are subject to the discretion of the plan administrator.

Stock options. The 2014 Plan allows the plan administrator to grant incentive stock options, as that term is defined in section 422 of the Internal Revenue Code, or nonqualified stock options. Only our employees or employees of our subsidiaries or any parent corporation may receive incentive stock option awards. Options must have an exercise price at least equal to the fair market value of the underlying shares (110% of the fair market value for incentive stock options if the grantee is a 10% holder within the meaning of Code section 422) on the date of grant. The option holder may pay the exercise price in cash or by check, by tendering shares of common stock, by a combination of cash and shares, or by any other means that the plan administrator approves. Generally, options granted under the 2014 Plan will have a 10 year term (five year term in the case of incentive stock options granted to a 10% holder), however, the options will expire earlier if the option holder's service relationship with us terminates.

Stock appreciation rights. The 2014 Plan allows the plan administrator to grant awards of stock appreciation rights, which entitle the holder to receive a payment in cash, in shares of common stock, or in a combination of both, having an aggregate value equal to the spread on the date of exercise between the fair market value of the underlying shares on that date and the base price of the shares specified in the grant agreement, multiplied by the number of shares specified in the award being exercised.

Stock awards. The 2014 Plan allows the plan administrator to grant stock awards to eligible participants in such amounts, on such terms and conditions, and for such consideration, including no consideration or minimum consideration as may be required by law. 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 plan administrator.

Performance awards. The 2014 Plan allows the plan administrator to grant performance awards which become payable in common stock or other securities, in cash, or in a combination of common stock or other securities and cash, on account of attainment of one or more performance goals established by the plan administrator. The plan administrator may establish performance goals 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:

- *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, equity incentive 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;

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

- *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;

- *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;

- *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;

- *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.

The plan administrator is authorized to make adjustments in the method of calculating attainment of performance measures and performance targets in recognition of: (1) extraordinary or non-recurring items; (2) changes in tax laws; (3) changes in generally accepted accounting principles or changes in accounting policies; (4) charges related to restructured or discontinued operations; (5) restatement of prior period financial results; and (6) any other unusual, non-recurring gain or loss that is separately identified and quantified in our financial statements; provided that the plan administrator's decision as to whether such adjustments will be made with respect to any covered employee, within the meaning of section 162(m) of the Internal Revenue Code, is determined when the performance targets are established for the applicable performance period. Notwithstanding the foregoing, the plan administrator may, at its sole discretion, modify the performance results upon which awards are based under the 2014 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, only to the extent permitted by Section 162(m) of the Internal Revenue Code if the award was intended to constitute "qualified performance-based compensation" within the meaning of Section 162(m) of the Internal Revenue Code.

Change in control. In the event of any transaction resulting in a "change in control" of the Company (as defined in the 2014 Plan), outstanding stock options and other awards that are payable in or convertible into our common stock will terminate upon the effective time of the change in control unless provision is made in connection with the transaction for the continuation, assumption, or substitution of the awards by the surviving or successor entity or its parent. In the event of such termination the holders of stock options and other awards under the 2014 Plan will be permitted immediately before the change in control to exercise or convert all portions of awards that are then exercisable or convertible or which become exercisable or convertible upon or prior to the effective time of the change in control. 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 will become payable (or a pro rata portion of the lapse restrictions will 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 goals and performance targets relating to the portion of the performance period completed as of the date of the change in control.

Amendment and termination. The 2014 Plan became effective on June 17, 2014. The 2014 Plan Amendment became effective on June 18, 2015. No award will be granted under the 2014 Plan after the close of business on the day before the tenth anniversary of the effective date of the plan. Our board of directors may terminate, amend or modify the 2014 Plan, or any portion thereof, at any time. Stockholder approval will be required to reprice any options or SARs under the 2014 Plan.

U.S. federal income tax consequences. The following is a general summary of the U.S. federal income tax treatment of stock options and other awards that are authorized for issuance under the 2014 Plan, based upon the provisions of the Internal Revenue Code as of the date of this report. This summary is not intended to be exhaustive and the exact tax consequences to any grantee will depend upon his or her particular circumstances and other facts. Participants must consult their tax advisors with respect to any state, local and non-U.S. tax considerations or particular federal tax implications of awards granted to them under the 2014 Plan.

Treatment of Options. The Code treats incentive stock options and nonstatutory stock options differently. However, as to both types of options, no income will be recognized to the optionee at the time of the grant of the options under the 2014 Plan.

Generally, upon exercise of a nonstatutory (or non-qualified) stock option (including an option intended to be an incentive stock option but which has not continued to so qualify at the time of exercise), an optionee will recognize ordinary income tax on the excess of the fair market value of the stock on the exercise date over the option price. In general, if an optionee, in exercising a nonstatutory stock option, tenders shares of our common stock in partial or full payment of the option price, no gain or loss will be recognized on the tender. However, if the tendered shares were previously acquired upon the exercise of an incentive stock option and the tender is within two years after the date of grant or within one year after the date of exercise of the incentive stock option, the tender will be a disqualifying disposition of the shares acquired upon exercise of the incentive stock option.

For incentive stock options, there is no taxable income to an optionee at the time of exercise. However, the excess of the fair market value of the stock on the date of exercise over the exercise price will be taken into account in determining whether the “alternative minimum tax” will apply for the year of exercise. If the shares acquired upon exercise are held until at least two years from the date of grant and more than one year from the date of exercise, any gain or loss upon the sale of such shares, if held as capital assets, will be long-term capital gain or loss (measured by the difference between the sales price of the stock and the exercise price). Under current federal income tax law, a long-term capital gain will be taxed at a rate which is less than the maximum rate of tax on ordinary income. If the two-year and one-year holding period requirements are not met (a “disqualifying disposition”), an optionee will recognize ordinary income in the year of disposition in an amount equal to the lesser of (1) the fair market value of the stock on the date of exercise minus the exercise price or (2) the amount realized on disposition minus the exercise price. The remainder of the gain will be treated as long-term capital gain, depending upon whether the stock has been held for more than a year. If an optionee makes a disqualifying disposition, he or she will be obligated to notify us.

In general, if an optionee, in exercising an incentive stock option, tenders shares of our common stock in partial or full payment of the option price, no gain or loss will be recognized on the tender. However, if the tendered shares were previously acquired upon the exercise of another incentive stock option and the tender is within two years after the date of grant or within one year after the date of exercise of the other option, the tender will be a disqualifying disposition of the shares acquired upon exercise of the other option.

As noted above, the exercise of an incentive stock option could subject an optionee to the alternative minimum tax. The application of the alternative minimum tax to any particular optionee depends upon the particular facts and circumstances which exist with respect to the optionee in the year of exercise. However, as a general rule, the amount by which the fair market value of the common stock on the date of exercise of an option exceeds the exercise price of the option will constitute an item of “adjustment” for purposes of determining the alternative minimum taxable income on which the alternative tax may be imposed. As such, this item will enter into the tax base on which the alternative minimum tax is computed and may therefore cause the alternative minimum tax to become applicable in any given year.

Treatment of Stock Appreciation Rights. Generally, the recipient of a stock appreciation right will not recognize any income upon grant of the stock appreciation right. Upon exercise of a stock appreciation right, the holder will recognize ordinary income equal to the fair market value of our common stock at that time.

Treatment of Stock Awards. Generally, absent an election to be taxed currently under Section 83(b) of the Code ("Section 83(b) Election"), there will be no federal income tax consequences to the recipient upon the grant of a restricted stock award. At the expiration of the restriction period and the satisfaction of any other restrictions applicable to the restricted shares, the recipient will recognize ordinary income equal to the fair market value of our common stock at that time. If a Section 83(b) Election is made within 30 days after the date the restricted stock award is granted, the recipient will recognize an amount of ordinary income at the time of the receipt of the restricted shares equal to the fair market value (determined without regard to applicable restrictions) of the shares of our common stock at such time. If a Section 83(b) Election is made, no additional income will be recognized by the recipient upon the lapse of restrictions on the shares (and prior to the sale of such shares), but, if the shares are subsequently forfeited, the recipient may not deduct the income that was recognized pursuant to the Section 83(b) Election at the time of the receipt of the shares.

The recipient of an unrestricted stock award will recognize ordinary income equal to the fair market value of our common stock that is the subject of the award when the award is made.

The recipient of a restricted stock unit will recognize ordinary income as and when the units vest. The amount of the income will be equal to the fair market value of the shares of our common stock issued at that time. The recipient of a restricted stock unit will not be permitted to make a Section 83(b) Election with respect to such award.

Treatment of Performance Awards and Other Stock-Based Awards. The federal income tax consequences of performance share awards, performance unit awards, other cash-based awards and other stock-based awards will depend on the terms and conditions of those awards.

Tax Withholding. We have the right to deduct or withhold, or require a participant to remit to us, the amount required to satisfy minimum statutory withholding requirements of federal, state and local tax laws and regulations (domestic or foreign) with respect to any taxable event arising as a result of the 2014 Plan.

Inapplicability of Code Sections and ERISA. Sections 401(a) and 401(k) of the Code and the provisions of the Employee Retirement Income Security Act of 1974 are not applicable to the 2014 Plan.

Outstanding Equity Awards at Fiscal Year-End 2015

The following table provides information about the number of outstanding equity awards held by our named executive officers at December 31, 2015.

Name	Option Awards				Stock Awards			
	Number of securities underlying unexercised options exercisable (#)	Number of securities underlying unexercised options unexercisable (#)	Equity incentive plan awards: number of securities underlying unexercised unearned options (#)	Option exercise price ($)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units Or Other Rights That Have Not Vested ($)	Market Value of Shares or Units of Stock That Have Not Vested ($)	Equity Incentive Plan Awards: Number of Unearned Shares, Units Or Other Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units Or Other Rights That Have Not Vested ($)
Samuel D. Riccitelli	—	—	—	—	—	$93,188 (2)	—	—
Tamara A Seymour	60,000 (1)	—	—	$ 1.57	—	51,750 (3)	—	—

(1) The options underlying this award vest as follows: (1) 15,000 options vest on August 12, 2016; and the remaining 45,000 options vest in 36 equal monthly installments beginning on September 12, 2016.

(2) 124,251 shares underlying this award vest on June 17, 2016. The remaining shares underlying this June 17, 2014 award previously vested as follows: (1) 248,504 shares vested on June 17, 2014; (2) 124,252 shares vested on January 1, 2015; (3) 124,252 shares vested on June 17, 2015; and (4) 124,252 shares vested on December 17, 2015. Settlement of 372,756 of the vested shares was made on April 8, 2015, with $249,269 paid in cash to Mr. Riccitelli in exchange for 119,842 of the shares to satisfy tax withholding requirements. Settlement of 124,252 of the vested shares was made on June 19, 2015, with $69,513 paid in cash to Mr. Riccitelli in exchange for 46,036 of the shares to satisfy tax withholding requirements. Settlement of 124,252 vested shares was made on February 12, 2016, with $24,963 paid in cash to Mr. Riccitelli in exchange for 54,268 of the shares to satisfy tax withholding requirements. The remaining 124,251 shares that vest in 2016 will be made on or after the vesting date, as determined by the Company, in a manner intended to comply with the terms of the award agreement and applicable law.

(3) 23,000 shares underlying this award vest on August 4th in each of 2016, 2017 and 2018. Settlement of 23,000 of the vested shares was made on August 4, 2015, with $13,294 paid in cash to Ms. Seymour in exchange for 8,522 of the shares to satisfy tax withholding requirements. The remaining shares that vest after 2015 will be made on or after the vesting date, as determined by the Company, in a manner intended to comply with the terms of the award agreement and applicable law.

Payments Due Upon Termination of Employment or a Change in Control

Employment Agreement

Mr. Riccitelli's CEO Agreement and Ms. Seymour's CFO Agreement entitle each of them (each referred to herein as the "Executive") to receive certain payments upon the termination of such person's employment under certain circumstance as described below.

- *Termination for Cause* — In the event Executive's employment is terminated for "Cause," Executive's sole remedy will be to collect all unpaid base salary, all accrued personal time off and all unreimbursed expenses payable for all periods through the effective date of termination, as well as any amount arising from his participation in, or benefits under, any employee benefit plan, program or arrangement, payable in accordance with the terms of such plan, program or arrangement.

"Cause" means (1) expiration of the term of the CEO Agreement or CFO Agreement (as applicable), (2) a material breach by Executive of his or her fiduciary duty to the Company that results in material harm to the Company; (3) a material breach by Executive of the terms of the CEO Agreement or CFO Agreement (as applicable) or any other agreement between Executive and the Company, which remains uncured for a period of 30 days following the receipt of written notice specifying the nature of the breach; (4) the willful commission by Executive of any act of embezzlement, fraud, larceny or theft on or from the Company; (5) substantial and continuing willful neglect or inattention by Executive of the duties of such person's employment, refusal to perform the lawful and reasonable directions 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; (6) the willful commission by Executive of any crime involving moral turpitude or a felony; and (7) 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 the Company, would have a material adverse impact on the business of the Company.

- *Termination Without Cause* — In the event Mr. Riccitelli's employment is terminated without "Cause," he will be entitled to receive 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 personal time off, and all unreimbursed expenses payable for all periods through the effective date of termination (with such amounts to be paid on the date of termination).

In addition, Mr. Riccitelli will be entitled to receive a severance payment, calculated as follows:

—

should the termination occur after June 23, 2015, Mr. Riccitelli will be entitled to continue to receive his then-current base salary for a period of twelve months.

In the event Ms. Seymour's employment is terminated without Cause, Ms. Seymour will be entitled to receive a severance payment calculated as follows:

should the termination occur anytime during the employment period after the initial one-year term, Ms. Seymour will be entitled to continue to receive her then-current base salary for twelve months.

Neither Executive will be required to mitigate the amount of any severance payments received by seeking other employment during the term of the severance period. However, should the Executive obtain other employment during the term of the severance period, the Company will pay such person, for the remaining length of the severance period, only the difference between such person's new salary and base salary (as in effect at the time of termination), if the new salary is less than such person's base salary (i.e., the Company will not be obligated to make any severance payments to Executive if such person's new salary is greater than such person's applicable base salary). The severance payment (less all applicable withholdings) will be paid in equal monthly installments over the applicable period immediately following the termination of Executive's employment. The Company will also reimburse Executive for premiums for COBRA coverage for Executive (and to the extent he or she has family coverage, his family), provided that Executive elects such coverage, during the applicable period when such person is receiving severance payments, until such time as Executive obtains other employment and is entitled to comparable health coverage from such employer.

Termination After Disability or Death — In the event that Executive's employment is terminated due to disability (as described in the CEO Agreement or CFO Agreement (as applicable)) or on account of such person's death, then Executive (or such person's estate or personal representative, as applicable) will be entitled to receive 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 personal time off, and all unreimbursed expenses payable for all periods through the effective date of termination. In the case of disability only, Executive will be

- entitled to receive, in addition to the amounts specified above, for a period of six months, a series of monthly payments equal to such person's then-current monthly base salary payments such person received during his or her employment if and only if Executive does not receive any payments as a result of the short-term and long-term disability insurance benefits that the Company obtains on such person's behalf pursuant to the CEO Agreement or CFO Agreement (as applicable), which payments will be paid in equal installments over the applicable period. If Executive is provided with such insurance payments, then such person will only be entitled to receive the difference between the insurance payments and such person's base salary, if the payments are less than such person's base salary.

- *Termination by Executive for Good Reason* — In the event that Executive's employment is terminated by such person for "Good Reason," then Executive will be entitled to receive all unpaid base salary, accrued annual bonus or incentive compensation (including any such unpaid, accrued compensation from the immediately preceding year), accrued personal time off and all unreimbursed expenses payable for all periods through the effective date of such person's termination. In addition, Executive will be entitled to receive the same severance payment such person would be entitled to receive if his or her employment were terminated by the Company without Cause

"Good Reason" means (1) the Company has materially breached the CEO Agreement or CFO Agreement (as applicable) and the Company has failed to cure or remedy such breach after 30-days written notice from Executive (provided that Executive must resign within 30 days after expiration of the 30-day period following written notice without cure or remedy by the Company), (2) 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 is scope or nature, and the Company has failed to cure or remedy such breach after 30-days written notice from Executive; or (3) the Company has required that Executive perform any act or refrain from performing any act that would be in violation of applicable law.

- *Termination by Executive without Good Reason* — In the event Executive terminates his or her employment without Good Reason, such person will only be entitled to receive all unpaid base salary, all accrued personal time off and all unreimbursed expenses payable for all periods through the effective date of termination and Executive will not be entitled to any compensation or other amounts from the Company following the effective date of termination.

Director Compensation

Prior to our Corporate Conversion and our initial public offering, we did not pay compensation to our managers for their service on our board of managers. In connection with our initial public offering, our board of directors adopted the following compensation arrangement for our non-employee independent directors, which was in effect until August 6, 2015.

Annual Compensation

- Board retainer/meeting fees — $25,000 plus $1,000 per meeting
- Audit Committee Member Meeting Fees — $500 per meeting
- Audit Committee Chairman Retainer — $10,000

- Compensation Committee Member Meetings Fees — $500 per meeting
- Compensation Committee Chairman Retainer — $5,000
- Nominating and Corporate Governance Committee Member Meeting Fees — $500 per meeting
- Nominating and Corporate Governance Committee Chairman Retainer — $5,000

Equity Awards granted upon appointment to the Board of Directors

- Restricted Stock Unit Award — 5,500 shares
- Stock Option Award — 6,000 shares

Our Compensation Committee established the following fees for payment to members of our Board of Directors or committees, as the case may be, effective as of August 6, 2015:

Annual Compensation

- Board Member Retainer — $40,000
- Board Chairman Retainer — $30,000

- Audit Committee Member Retainer — $10,000
- Audit Committee Chairman Retainer — $20,000
- Compensation Committee Member Retainer — $7,500
- Compensation Committee Chairman Retainer — $15,000
- Nominating and Corporate Governance Committee Member Retainer — $5,000
- Nominating and Corporate Governance Committee Chairman Retainer — $10,000

Equity Awards granted upon appointment to the Board of Directors

- Stock Option Award — 25,000 shares

In August 2015, the Compensation Committee and the Board granted the acceleration of the vesting of 4,125 remaining unvested restricted stock units previously granted to each non-employee director and granted 5,000 restricted stock units, which restricted stock units fully vested on grant. Beginning in 2016, the Chairman and each current non-employee director shall receive, subject to Board approval, an annual option grant as of the date of the Company's annual meeting to purchase 18,000 shares of the Company's Common Stock, which grant shall vest monthly over a one-year period beginning on the date of grant and shall have an exercise price equal to the fair market value of a share of the Company's Common Stock as of the date of grant and shall be subject to such other terms and conditions as set forth in the Company's form of stock option grant agreement.

2015 Director Compensation

The table below sets forth the compensation of our non-employee directors for fiscal year 2015.

Name [1]	Fees Earned or Paid ($)	**Stock Awards**[2] ($)	**Option Awards**[3] **($)**	Total ($)

	in Cash ($)			
David A. Gonyer, R. Ph.	52,750	8,100	16,043	76,893
Bennett S. LeBow	35,000	8,100	16,043	59,143
Douglas A. Schuling	57,750	8,100	16,043	81,893
Robin L. Smith, M.D.	54,000	8,100	16,043	78,143

(1) Mr. Riccitelli, our President and Chief Executive Officer, is also a director on our board of directors. Mr. Riccitelli's compensation for serving as our President and Chief Executive Officer is reported in the Summary Compensation Table and other compensation tables set forth under "Executive Compensation." Mr. Riccitelli does not receive any additional compensation for his service on our Board.

(2) Each of the non-employee directors was granted a restricted stock unit award for 5,000 shares of common stock on August 6, 2015. Each restricted stock unit vested immediately upon the date of grant. The values set forth in this column are based on the aggregate grant date fair value of the awards computed in accordance with FASB ASC Topic 718.

(3) Each of the non-employee directors was granted a stock option to purchase 18,000 shares of common stock on August 6, 2015. The stock options vest in ten equal monthly installments beginning on August 31, 2015. The values set forth in this column are based on the aggregate grant date fair value of the awards computed in accordance with FASB ASC Topic 718.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Securities Authorized for Issuance Under Equity Compensation Plans

As of December 31, 2015, we had one equity compensation plan in place under which shares of our common stock were authorized for issuance:

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in first column)
Equity compensation plans approved by stockholders	983,325 (1)	$ 2.28 (2)	695,260
Equity compensation plans not approved by stockholders	—	$ —	—
Total	983,325	$ 2.28	695,260

(1) Total includes options to purchase 631,567 of common stock and 351,758 shares that may be issued under outstanding restricted stock units.

(2) The weighted-average exercise price does not take into account the restricted stock units.

A description of our equity compensation plan is set forth in Note 6 to the consolidated financial statements included elsewhere in this report.

Beneficial Ownership of Our Securities

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of March 15, 2016:

- each person who is known by us to be the beneficial owner of more than 5% of our outstanding common stock;
- each of our directors;
- each of our named executive officers; and
- all of our directors and executive officers as a group.

We have determined beneficial ownership in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. In addition, the rules include shares of common stock issuable pursuant to the exercise of stock options, warrants or other rights that are either immediately exercisable or exercisable on or before May 14, 2016, which is 60 days after the date of the information provided. These shares are deemed to be outstanding and beneficially owned by the person holding those options or warrants for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them, subject to applicable community property laws.

Except as otherwise noted below, the address for each of the individuals and entities listed in this table is c/o Signal Genetics, Inc., 5740 Fleet Street, Carlsbad, California 92008.

Name of Beneficial Owner	Number of Shares Beneficially Owned		**Percentage Ownership[1]**	
5% Holders				
LeBow Alpha, LLLP[2]	2,232,629		20.8	%
E. Jeffrey Peierls[3]	681,100		6.4	%
Executive Officers, Directors and Director Nominees				
Bennett S. LeBow[2]	2,253,829	[4]	21.0	%
Samuel D. Riccitelli	415,114		3.9	%
Tamara A. Seymour	14,478		0.1	%
David A. Gonyer	28,200	[5]	0.3	%
Douglas A. Schuling	28,200	[6]	0.3	%
Dr. Robin L. Smith	28,200	[7]	0.3	%
All Executive Officers & Directors, as a group (six persons)	2,768,021	[8]	25.7	%

(1) Based on 10,709,080 common shares outstanding as of March 15, 2016.

(2) Bennett S. LeBow is the sole partner of LeBow Alpha. By virtue of his position with LeBow Alpha, he is deemed to be the beneficial owner of these shares and has sole voting and dispositive power over the shares. The address of LeBow Alpha is 667 Madison Avenue, 14th Floor, New York, New York 10065.

(3) Based solely on the Schedule 13G filed with the SEC on March 20, 2015, as of March 11, 2015, E. Jeffrey Peierls has sole voting and sole dispositive power over 85,500 shares, and shared voting and shared dispositive power over 595,600 shares. Brian E. Peierls has sole voting and sole dispositive power over 50,000 shares, and shared voting and shared dispositive power over 595,600 shares. E. Jeffrey Peierls, President and a Director of the Peierls Foundation, Inc. (“Foundation”) and Brian E. Peierls, Secretary/Treasurer of the Foundation, are co-trustees of UD E.S. Peierls for E. F. Peierls; and co-managers of 75 Brian L.L.C., 75 Jeff L.L.C, Life/Brian, L.L.C., Life/Jeff L.L.C., Jen/Brian, L.L.C., Jen/Jeff, L.L.C., Bypass 1, L.L.C., Unitrust1, L.L.C.; and, co-trustees of UW E.S. Peierls for Brian E. Peierls and UW E.S. Peierls for E. Jeffrey Peierls. Each of E. Jeffrey Peierls and Brian E. Peierls, as co-managers and as co-trustees may be deemed to indirectly own the securities owned by each Limited Liability Company and each Trust as well as being control persons of the Foundation. In such filing E. Jeffrey Peierls lists his address as 73 South Holman Way, Golden, Colorado, 80401 and Brian E. Peierls lists his address as 7808 Harvestman Cove, Austin, Texas, 78731.

(4) Includes 5,000 shares of common stock owned directly by Mr. LeBow, 2,232,629 shares owned by LeBow Alpha in which Mr. LeBow has a beneficial interest, and 16,200 shares that Mr. LeBow has the right to acquire from us upon the exercise of outstanding stock options within 60 days after March 15, 2016.

(5) Includes 10,500 shares of common stock owned directly by Mr. Gonyer and 17,700 shares that Mr. Gonyer has the right to acquire from us upon the exercise of outstanding stock options within 60 days after March 15, 2016.

(6) Includes 10,500 shares of common stock owned directly by Mr. Schuling and 17,700 shares that Mr. Schuling has the right to acquire from us upon the exercise of outstanding stock options within 60 days after March 15, 2016.

(7) Includes 10,500 shares of common stock owned directly by Dr. Smith and 17,700 shares that Dr. Smith has the right to acquire from us upon the exercise of outstanding stock options within 60 days after March 15, 2016.

(8) Includes 69,300 aggregate shares of common stock that such persons have the right to acquire from us upon the exercise of outstanding options within 60 days after March 15, 2016.

Item 13. Certain Relationships and Related Transactions and Director Independence

The following is a summary of transactions since January 1, 2015 to which we have been a party in which the amount involved exceeded the lesser of $120,000 or one percent of the average of our total assets at the end of the last two recent fiscal years and in which any of our executive officers, directors, director nominees or beneficial holders of more than five percent of our capital stock had or will have a direct or indirect material interest, other than compensation arrangements which are described under the section of this report entitled “Management — Non-Employee Director Compensation” and “Management — Executive Compensation.”

Note Payable – Related Party

We and our subsidiaries, as borrowers, entered into a Secured Demand Promissory Note (the “Original Promissory Note”), in the amount of $20,000,000 with LeBow Alpha, as lender, dated November 3, 2011. Any unpaid principal under the Original Promissory Note bore interest at a rate of 8% per annum, compounded quarterly. In addition, interest was payable on any overdue installment of principal for the period overdue, on demand, at a rate equal to 11% per annum, compounded quarterly as of the last day of each calendar quarter. The Chairman of our board of directors, Bennett LeBow, is the sole partner of LeBow Alpha, our principal stockholder, and has sole voting and dispositive power over this entity.

The Original Promissory Note was amended from time to time to increase the principal amount of the borrowings thereunder and to include additional amounts owed to other LeBow-controlled entities as lenders, namely LeBow Gamma Limited Partnership ("LeBow Gamma"), and BSL Capital, Inc. (collectively, the "LeBow Entities"), from whom we have also borrowed money, from time to time.

On December 31, 2013, we entered into an Amended and Restated Secured Demand Promissory Note (the "New Promissory Note"), in the amount of $25,000,000 with LeBow Alpha to include all of the principal and interest then owed to LeBow Alpha and the other LeBow-controlled entities under the Original Promissory Note, as amended from time to time and to include certain loans that were made to the Company through December of 2013 by LeBow Alpha, LeBow Gamma and BSL Capital, Inc. Unpaid principal under the New Promissory Note bore interest at a rate of 8% per annum, compounded quarterly. In addition, interest was payable on any overdue installment of principal for the period overdue, on demand, at a rate equal to 11% per annum, compounded quarterly as of the last day of each calendar quarter.

The New Promissory Note (like the Old Promissory Note) contained customary representations and warranties and events of default, and includes a cross-default provision to any loan documents, as such term was defined in the Promissory Note, and included a Security Agreement (defined below).

At the time of our initial public offering in June 2014, $28,326,287 in principal and interest was outstanding under the New Promissory Note. In connection with our initial public offering and pursuant to the Exchange Agreement, on June 17, 2014, $27,326,287 was converted into 2,732,629 Class C units of Signal Genetics LLC (2,032,629 of which were issued to LeBow Alpha and 700,000 of which were issued to unaffiliated trusts). We refer to this conversion as the Debt Conversion. These Class C units were then converted into an aggregate of 2,732,629 shares of common stock of Signal Genetics, Inc. in the Corporate Conversion which preceded our initial public offering.

From January 1, 2011 until the New Promissory Note was converted in the Debt Conversion, the largest aggregate amount of principal outstanding under the note was $24,433,380, $17,433,380 of which was owed to certain entities controlled by Mr. LeBow. From January 1, 2011 to our initial public offering, we repaid approximately $9,279,000 in principal and $1,182,000 in interest under the Original Promissory Note and the New Promissory Note.

An additional $1,000,000 was advanced to us by Mr. LeBow prior to our initial public offering to pay for certain offering expenses. Following the offering, this amount, along with an additional $45,000, which was advanced to pay for certain additional offering expenses, was reclassified as amounts due to related party on our consolidated balance sheet. This aggregate amount was non-interest bearing and due on demand.

On March 6, 2015, the amounts due to related party were converted into an unsecured note payable – related party bearing interest at 8% per annum and due on demand on or after June 30, 2015. The principal amount of the note, $1.1

million, was increased over the amounts due to related party prior to its issuance to provide the equivalent of 8% per annum interest for the period of time the amounts due to related party were held as a payable in exchange for a provision that the related party would not call the note prior to June 30, 2015. Interest expense related to this note during the year ended December 31, 2015 was $132,000. The note balance and accrued interest payable at December 31, 2015 were $1,105,000 and $73,000, respectively. No interest was paid during 2015 and as of March 15, 2016, the note has not been called.

Director Independence

The information included under the heading “Board Composition and Election of Directors” in Part III, Item 10 is hereby incorporated by reference into this Item 13.

Item 14. Principal Accounting Fees and Services

In connection with the audit of our 2015 and 2014 consolidated financial statements the Company entered into engagement agreements with BDO USA, LLP, which sets forth the terms by which BDO USA, LLP has performed audit services for the Company.

The aggregate fees agreed to by the Company for the annual audits for the years ended December 31, 2015 and 2014, and all other audit fees paid by the Company to BDO USA, LLP during 2015 and 2014 were $225,000 and $222,000, respectively. Audit fees for the years ended December 31, 2015 and 2014 were for professional services provided in connection with the annual audits of the Company’s consolidated financial statements, review of the Company’s quarterly consolidated financial statements, accounting matters directly related to the annual audits, professional services in connection with SEC registration statements, and other documents filed with the SEC or other documents issued in connection with securities offerings, and professional services provided in connection with other statutory or regulatory filings.

All audit fees relating to the audit for the year ended December 31, 2015, were approved in advance by the Audit Committee. All audit and non-audit services to be provided by BDO USA, LLP were, and will continue to be, pre-approved by the Audit Committee.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a)(1) Financial Statements

The financial statements required by this item are submitted in a separate section beginning on page F-1 of this annual report.

(a)(2) Financial Statement Schedules

Financial statement schedules have been omitted because they are either not required, not applicable, or the information is otherwise included.

(a)(3) Exhibits

The exhibits listed below are required by Item 601 of Regulation S-K. Each management contract or compensatory plan or arrangement required to be filed as an exhibit to this report has been identified.

Exhibit Number	Description of Exhibit
3.1	Certificate of Incorporation of Signal Genetics, Inc. (incorporated by reference to Exhibit 3.1 to the Quarterly Report on Form 10-Q (No. 001-36483) filed with the Securities and Exchange Commission on August 14, 2014).
3.2	Bylaws of Signal Genetics, Inc. (incorporated by reference to Exhibit 3.2 to the Quarterly Report on Form 10-Q (No. 001-36483) filed with the Securities and Exchange Commission on August 14, 2014).
4.1	Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.1 to the Registration Statement on Form S-1 (No. 333-194668) filed with the Securities and Exchange Commission on March 19, 2014).
4.2	Form of Representative's Warrant (incorporated by reference to Exhibit 4.2 to the Registration Statement on Form S-1/A (No. 333-201533) filed with the Securities and Exchange Commission on January 29, 2015).
4.3	Form of Representative's Warrant (incorporated by reference to Exhibit 10.24 to the Registration Statement on Form S-1/A (No. 333-194668) filed with the Securities and Exchange Commission on June 6, 2014).

10.1	Assignment of Membership Interests between LeBow Alpha LLLP and Signal Genetics LLC, dated January 1, 2011 (incorporated by reference to Exhibit 10.1 to the Registration Statement on Form S-1 (No. 333-194668) filed with the Securities and Exchange Commission on March 19, 2014).
10.2†	License Agreement, dated April 1, 2010, by and between The Board of Trustees of the University of Arkansas on behalf of the University of Arkansas for Medical Sciences and Myeloma Health LLC (the "UAMS License Agreement") (incorporated by reference to Exhibit 10.2 to the Registration Statement on Form S-1 (No. 333-194668) filed with the Securities and Exchange Commission on April 9, 2014).
10.2.1	Letter Agreement, dated April 1, 2010, of Signal Genetics LLC (f/k/a Myeloma Health, LLC) (as referenced in the UAMS License Agreement) (incorporated by reference to Exhibit 10.2.1 to the Registration Statement on Form S-1 (No. 333-194668) filed with the Securities and Exchange Commission on March 19, 2014).
10.3	First Amendment to License Agreement, dated September 1, 2010, by and between The Board of Trustees of the University of Arkansas on behalf of the University of Arkansas for Medical Sciences and Myeloma Health LLC (the "First Amendment to UAMS License Agreement") (incorporated by reference to Exhibit 10.3 to the Registration Statement on Form S-1 (No. 333-194668) filed with the Securities and Exchange Commission on March 19, 2014).
10.3.1	Letter Agreement, dated February 25, 2014, of Signal Genetics LLC (f/k/a Myeloma Health, LLC) (as referenced in the First Amendment to UAMS License Agreement) (incorporated by reference to Exhibit 10.3.1 to the Registration Statement on Form S-1 (No. 333-194668) filed with the Securities and Exchange Commission on March 19, 2014).
10.4†	Second Amendment to License Agreement, dated September 14, 2010, by and between The Board of Trustees of the University of Arkansas on behalf of the University of Arkansas for Medical Sciences and Myeloma Health LLC (incorporated by reference to Exhibit 10.4 to the Registration Statement on Form S-1 (No. 333-194668) filed with the Securities and Exchange Commission on March 19, 2014).
10.5	Third Amendment to License Agreement, dated October 2011, by and between The Board of Trustees of the University of Arkansas on behalf of the University of Arkansas for Medical Sciences and Myeloma Health LLC (incorporated by reference to Exhibit 10.5 to the Registration Statement on Form S-1 (No. 333-194668) filed with the Securities and Exchange Commission on March 19, 2014).
10.6	Fourth Amendment to License Agreement, dated December 1, 2011, by and between The Board of Trustees of the University of Arkansas on behalf of the University of Arkansas for Medical Sciences and Myeloma Health LLC (incorporated by reference to Exhibit 10.6 to the Registration Statement on Form S-1 (No. 333-194668) filed with the Securities and Exchange Commission on March 19, 2014).
10.7†	Reference Laboratory Services Agreement, dated March 21, 2011, by and between The Board of Trustees of the University of Arkansas on behalf of the University of Arkansas for Medical Sciences' Clinical Laboratory and Signal Genetics LLC (incorporated by reference to Exhibit 10.7 to the Registration Statement on Form S-1 (No. 333-194668) filed with the Securities and Exchange Commission on March 19, 2014).

Exhibit Number	Description of Exhibit
10.8†	Reference Laboratory Services Agreement, dated September 20, 2014, by and between The Board of Trustees of the University of Arkansas on behalf of the University of Arkansas for Medical Sciences and Signal Genetics, Inc. (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q (No. 001-36483) filed with the Securities and Exchange Commission on November 11, 2014).
10.9†	Reference Laboratory Services Agreement for Research Specimens, dated March 21, 2011, by and between The Board of Trustees of the University of Arkansas on behalf of the University of Arkansas for Medical Sciences' Myeloma Institute for Research Therapy and Signal Genetics LLC (incorporated by reference to Exhibit 10.8 to the Registration Statement on Form S-1 (No. 333-194668) filed with the Securities and Exchange Commission on March 19, 2014).
10.10†	Reference Laboratory Services Agreement for Research Specimens, dated September 20, 2014, by and between The Board of Trustees of the University of Arkansas on behalf of the University of Arkansas for Medical Sciences and Signal Genetics, Inc. (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q (No. 001-36483) filed with the Securities and Exchange Commission on November 11, 2014).
10.13	Form of Indemnification Agreement between Signal Genetics, Inc. and each of its directors and executive officers (incorporated by reference to Exhibit 10.14 to the Registration Statement on Form S-1 (No. 333-194668) filed with the Securities and Exchange Commission on March 19, 2014).
10.14*	2014 Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q (No. 001-36483) filed with the Securities and Exchange Commission on August 14, 2014).
10.15*	First Amendment to the Signal Genetics, Inc. 2014 Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (No. 001-36483) filed with the Securities and Exchange Commission on June 23, 2015).
10.16	Exchange Agreement, dated June 17, 2014, by and between 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 (incorporated by reference to Exhibit 10.8 to the Quarterly Report on Form 10-Q (No. 001-36483) filed with the Securities and Exchange Commission on August 14, 2014).
10.17*	Amended and Restated Employment Agreement, dated June 17, 2014, by and between Signal Genetics, Inc. and Samuel D. Riccitelli (incorporated by reference to Exhibit 10.4 to the Quarterly Report on Form 10-Q (No. 001-36483) filed with the Securities and Exchange Commission on August 14, 2014).
10.18*	Form of Restricted Stock Unit Agreement by and between Signal Genetics, Inc. and Samuel D. Riccitelli (incorporated by reference to Exhibit 10.18 to the Registration Statement on Form S-1/A (No. 333-194668) filed with the Securities and Exchange Commission on April 9, 2014).
10.19	Letter Agreement, dated March 18, 2014, by and between The Board of Trustees of the University of Arkansas on behalf of the University of Arkansas for Medical Sciences and Signal Genetics, Inc. (incorporated by reference to Exhibit 10.19 to the Registration Statement on Form S-1/A (No. 333-194668) filed with the Securities and Exchange Commission on April 9, 2014).
10.20	UAMS Bioventures Lease Agreement, dated March 31, 2014, by and between The Board of Trustees of the University of Arkansas for Medical Sciences and Myeloma Health LLC (incorporated by reference to Exhibit 10.20 to the Registration Statement on Form S-1/A (No. 333-194668) filed with the Securities and Exchange Commission on April 9, 2014).
10.21	Agreement for Termination of Lease and Voluntary Surrender of Premises, dated March 14, 2014, by and between ARE-Acquisitions, LLC and Signal Genetics LLC (incorporated by reference to Exhibit 10.22 to the Registration Statement on Form S-1/A (No. 333-194668) filed with the Securities and Exchange Commission on May 15, 2014).
10.22	Letter Agreement, dated May 16, 2014, by and between The Board of Trustees of the University of Arkansas on behalf of the University of Arkansas for Medical Sciences and Signal Genetics, Inc. (incorporated by reference to Exhibit 10.23 to the Registration Statement on Form S-1/A (No. 333-194668)

	filed with the Securities and Exchange Commission on May 27, 2014).
10.23*	Employment Agreement, dated August 4, 2014, by and between Signal Genetics, Inc. and Tamara A. Seymour (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (No. 001-36483) filed with the Securities and Exchange Commission on July 23, 2014).
10.24*	Amendment to Amended and Restated Employment Agreement, dated July 23, 2014, by and between Signal Genetics, Inc. and Samuel D. Riccitelli (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K (No. 001-36483) filed with the Securities and Exchange Commission on July 23, 2014).
10.25	Office Building Lease Agreement, dated August 18, 2014, by and between OT9 Owner, LLC and Signal Genetics, Inc. (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q (No. 001-36483) filed with the Securities and Exchange Commission on November 11, 2014).

Exhibit Number	Description of Exhibit
10.26*	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).
10.27*	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).
10.28*	Letter Agreement, dated March 25, 2015, regarding Signal Genetics, Inc. Restricted Stock Unit Grant Agreement dated June 17, 2014, by and between Signal Genetics, Inc. and Samuel D. Riccitelli (incorporated by reference to Exhibit 10.28 to the Annual Report on Form 10-K (No. 001-36483) filed with the Securities and Exchange Commission on March 27, 2015).
10.29	Unsecured Demand Promissory Note by and between Signal Genetics, Inc. and Bennett LeBow, dated March 6, 2015(incorporated by reference to Exhibit 10.29 to the Annual Report on Form 10-K (No. 001-36483) filed with the Securities and Exchange Commission on March 27, 2015).
10.30	Controlled Equity Offering^{SM} Sales Agreement, dated July 10, 2015, by and between Signal Genetics, Inc. and Cantor Fitzgerald & Co. (incorporated by reference to Exhibit 1.2 to the Registration Statement on Form S-3 (No. 333-205620) filed with the Securities and Exchange Commission on July 10, 2015).
10.31****	UAMS Bioventures Lease Agreement, effective as of April 1, 2016, by and between The Board of Trustees of the University of Arkansas for Medical Sciences and Signal Genetics, Inc.
23.1	Consent of BDO USA, LLP.
31.1	Certification of Principal Executive Officer pursuant to Rule13a-14(a) and Rule 15d-14(a) of the Securities and Exchange Act, as amended.
31.2	Certification of Principal Financial Officer pursuant to Rule13a-14(a) and Rule 15d-14(a) of the Securities and Exchange Act, as amended.
32.1**	Certification of Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
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

† Confidential treatment granted as to portions of the exhibit. Confidential materials omitted and filed separately with the Securities and Exchange Commission.

* Management contract or compensatory plans or arrangements.

** This certification is being furnished 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, as amended, and is not to be incorporated by reference into any filing of the Registrant, whether made before or after the date hereof.

*** In accordance with Rule 406T of Regulation S-T, the Interactive Data Files in Exhibit 101 are deemed 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, are deemed not filed for purposes of Section 18 of the Exchange Act of 1934, as amended, and otherwise are not subject to liability under these sections.

**** Filed herewith.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: March 21, 2016 SIGNAL GENETICS, INC.

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

Pursuant to the requirements of the Securities Exchange Act of l934, this Report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Samuel D. Riccitelli **Samuel D. Riccitelli**	President, Chief Executive Officer and Director (Principal Executive Officer)	March 21, 2016
/s/ Tamara A. Seymour **Tamara A. Seymour**	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	March 21, 2016
/s/ Bennett S. LeBow **Bennett S. LeBow**	Chairman of the Board of Directors	March 21, 2016
/s/ David A. Gonyer, R. Ph. **David A. Gonyer, R. Ph.**	Director	March 21, 2016
/s/ Douglas A. Schuling **Douglas A. Schuling**	Director	March 21, 2016

/s/ Dr. Robin L. Smith	Director	March 21, 2016

Dr. Robin L. Smith

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SIGNAL GENETICS, INC.

CONSOLIDATED FINANCIAL STATEMENTS

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Report of Independent Registered Public Accounting Firm

Board of Directors and Stockholders

Signal Genetics, Inc.

We have audited the accompanying consolidated balance sheets of Signal Genetics, Inc. and Subsidiaries (the "Company") as of December 31, 2015 and 2014 and the related consolidated statements of operations, changes in stockholders' equity and members' deficiency, and cash flows for each of the two years in the period ended December 31, 2015. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Signal Genetics, Inc. and Subsidiaries at December 31, 2015 and 2014, and the results of their operations and their cash flows for each of two years in the period ended December 31, 2015, in conformity with accounting principles generally accepted in the United States of America.

/s/ BDO USA, LLP

San Diego, CA

March 21, 2016

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SIGNAL GENETICS, INC.

CONSOLIDATED BALANCE SHEETS

(in thousands, except share and par value data)

	December 31,	
	2015	2014
ASSETS		
Current assets:		
Cash and cash equivalents	$10,832	$5,119
Accounts receivable, net	394	1,088
Inventory	187	179
Prepaid expenses and other current assets	321	399
Total current assets	11,734	6,785
Property and equipment, net	1,153	1,214
Deferred offering costs	—	47
Security deposits	15	43
Total assets	$12,902	$8,089
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$242	$255
Accrued liabilities	1,018	361
Note payable – related party	1,105	—
Amounts due to related party	—	1,045
Lease termination/abandonment payable - current portion	—	248
Other current liabilities	103	80
Total current liabilities	2,468	1,989
Other noncurrent liabilities	24	109
Commitments and contingencies (Note 7)		
Stockholders' equity:		
Preferred stock, $0.01 par value, 5,000,000 shares authorized, no shares issued or outstanding at December 31, 2015 or 2014	—	—
Common stock, $0.01 par value, 50,000,000 shares authorized, 10,635,454 and 3,782,629 shares issued and outstanding at December 31, 2015 and 2014, respectively	106	38
Additional paid in capital	28,272	12,593
Accumulated deficit	(17,968)	(6,640)
Total stockholders' equity	10,410	5,991
Total liabilities and stockholders' equity	$12,902	$8,089

See accompanying notes to consolidated financial statements.

SIGNAL GENETICS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

(in thousands, except share and per share data)

	Years Ended December 31,	
	2015	2014
Net revenue	$2,538	$4,320
Operating expenses:		
Cost of revenue	2,472	3,366
Research and development	1,002	347
Selling and marketing	2,559	717
General and administrative	7,692	6,857
Gain on legal settlement	—	(100)
Total operating expenses	13,725	11,187
Loss from operations	(11,187)	(6,867)
Interest expense	(141)	(1,023)
Net loss attributable to members of Signal Genetics LLC	—	(1,250)
Net loss attributable to stockholders of Signal Genetics, Inc.	(11,328)	(6,640)
Net loss attributable to stockholders of Signal Genetics, Inc./members of Signal Genetics LLC	$(11,328)	$(7,890)
Net loss per common share, basic and diluted	$(1.40)	$(3.50)
Weighted-average number of shares outstanding, basic and diluted	8,091,899	2,255,864

See accompanying notes to consolidated financial statements.

SIGNAL GENETICS, INC.

CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY AND MEMBERS' DEFICIENCY

(in thousands, except share and unit data)

	Common Stock		Additional Paid-in	Accumulated	Total Stockholders'	Membership Units			Members'
	Shares	Amount	Capital	Deficit	Equity	Class A	Class B	Class C	Deficiency[1]
Balance, December 31, 2013						72,500	41,088	—	$(23,887)
Conversion of note payable to Class C Units						—	—	2,732,629	27,326
Net loss attributable to members of Signal Genetics LLC						—	—	—	(1,250)
Conversion from Limited Liability Company to Corporation	2,932,629	$29	$2,160	$—	$2,189	(72,500)	(41,088)	(2,732,629)	(2,189)
Initial public offering of common stock, net of costs to issue	850,000	9	5,835	—	5,844	—	—	—	—
Fair value of warrants and option for overallotment shares to underwriters issued in connection with initial public stock offering	—	—	300	—	300	—	—	—	—
Stock-based compensation	—	—	4,298	—	4,298	—	—	—	—
Net loss attributable to	—	—	—	(6,640)	(6,640)	—	—	—	—

stockholders of Signal Genetics, Inc.									
Balance, December 31, 2014	3,782,629	38	12,593	(6,640)	5,991	—	—	—	—
Public offerings of common stock, net of costs to issue	6,431,410	64	12,701	—	12,765	—	—	—	—
Fair value of warrants and option for overallotment shares to underwriters issued in connection with public stock offering	—	—	330	—	330	—	—	—	—
Stock-based compensation	—	—	3,015	—	3,015	—	—	—	—
Shares issued under employee stock incentive plan, net of shares repurchased to satisfy tax withholding obligations	421,415	4	(367)	—	-363	—	—	—	—
Net loss attributable to stockholders of Signal Genetics, Inc.	—	—	—	(11,328)	(11,328)	—	—	—	—
Balance, December 31, 2015	10,635,454	$106	$28,272	$(17,968)	$10,410	—	—	—	$—

(1) Members' deficiency was reclassified to additional paid-in capital upon conversion from the Limited Liability Company to the Corporation.

See accompanying notes to consolidated financial statements.

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SIGNAL GENETICS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)

	Years Ended December 31,	
	2015	2014
OPERATING ACTIVITIES		
Net loss	$(11,328)	$(7,890)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	3,015	4,298
Depreciation and amortization	184	144
Noncash interest on note payable – related party	132	1,007
Lease termination	—	46
Gain on legal settlement	—	(100)
Changes in operating assets and liabilities:		
Accounts receivable	694	(94)
Inventory	(8)	178
Prepaid expenses and other current assets	28	191
Accounts payable and accrued liabilities	633	383
Lease termination/abandonment payable	(248)	(376)
Net cash used in operating activities	(6,898)	(2,213)
INVESTING ACTIVITIES		
Purchases of property and equipment	(123)	(266)
(Increase) decrease in security deposit on lease	28	(8)
Net cash used in investing activities	(95)	(274)
FINANCING ACTIVITIES		
Proceeds from issuances of common stock, net of costs to issue	13,095	6,644
Proceeds from issuance of note payable/amounts due to related party	—	795
Proceeds from cash released from restricted cash account securing a letter of credit	50	—
Shares repurchased to satisfy tax withholding obligation for restricted stock awards	(363)	—
Repayment of capital lease obligation and note payable	(76)	(42)
Net cash provided by financing activities	12,706	7,397
Net increase in cash	5,713	4,910
Cash and cash equivalents, beginning of period	5,119	209
Cash and cash equivalents, end of period	$10,832	$5,119
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION		
Cash paid for interest	$6	$1
Noncash investing and financing activities:		
Conversion of amounts due to related party to note payable – related party	$1,045	$—
Fair value of warrants and options for overallotment shares to underwriters issued in connection with public stock offerings	$330	$300
Conversion of note payable to Class C Units	$—	$27,326
Asset acquired under capital lease	$—	$164

See accompanying notes to consolidated financial statements.

SIGNAL GENETICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Basis of Presentation

Signal Genetics, Inc. (the "Company") is a commercial stage, molecular genetic 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 intellectual property stemming from the renowned research on multiple myeloma ("MM"), performed at the University of Arkansas for Medical Sciences ("UAMS"). Myeloma Prognostic Risk Signature ("MyPRS®") is based upon 30 years of clinical research on over 10,000 MM patients who received their care at UAMS. The Company currently generates revenues from the performance of its MyPRS® diagnostic test, which was launched in April 2011.

Basis of Presentation and Liquidity

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

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 its IPO, all financial support had been provided by the Company's majority member. As of December 31, 2015, however, following the ATM program, the 2015 Offering, the Debt Conversion, the Corporate Conversion and the IPO, each as defined below, the Company has positive working capital and stockholders' equity. Although the Company is forecasting continued losses and negative cash flows as it funds its expanding selling and marketing activities, and research and development programs, the Company believes that it has enough cash and cash equivalents on hand to support operations for 12 to 15 months from the date of this report. Going forward, as the Company continues its expansion, it may seek additional financing and/or strategic investments. However, there can be no assurance that any additional financing or strategic investments will be available to the Company on acceptable terms, if at all. If events or circumstances occur such that the Company does not obtain additional funding, it 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.

Public Offerings of Common Stock

On July 10, 2015, the Company filed a prospectus for the offering, issuance and sale of securities from time to time in one or more offerings ("Shelf Registration") which was declared effective by the SEC on July 28, 2015. The amount of securities to be sold pursuant to the Shelf Registration is limited by the Company's public float. Concurrently with filing the Shelf Registration, the Company entered into a sales agreement with Cantor Fitzgerald & Co., to sell shares of its common stock, with aggregate gross sales proceeds of up to $4.45 million, from time to time, through an "at-the-market" equity offering program (the "ATM program"). During the year ended December 31, 2015, the Company sold 2,734,983 shares of common stock pursuant to this registration for total cash proceeds of $4.0 million, which is net of $429,000 in sales agent's commissions and offering expenses. Due to the size of the Company's public float, the current ATM program has been completed, unless and until the Company's public float increases.

On February 20, 2015, the Company completed a public offering (the "2015 Offering") of 3,214,285 shares of its common stock, at $2.80 per share, for total cash proceeds of $7.8 million, which is net of $1.2 million in underwriter commissions and offering expenses. On February 26, 2015, the underwriters exercised their overallotment option for 482,142 additional shares of the Company's common stock, for total cash proceeds of $1.3 million, which is net of $95,000 in underwriter commissions.

Corporate Conversion and Initial Public Offering

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, $27.3 million of the Company's note payable — related party was converted into 2,732,629 newly authorized 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 200,000 and 2,732,629 shares, respectively, for 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 an initial public offering (the "IPO") of 850,000 shares of its common stock, at $10.00 per share, for net cash proceeds of $6.1 million, which is net of $2.4 million in underwriter commissions and offering expenses. The net contribution to additional paid-in capital was $5.8 million after deducting the noncash fair values of warrants and the option for overallotment shares issued in connection with the IPO.

2. 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, accounts receivable and allowance for doubtful accounts, accounting for income taxes, depreciation of property and equipment and stock-based compensation. Actual results could differ materially from those estimates.

Cash and Cash Equivalents

Cash is comprised of cash on hand and deposits in banks. The Company considers all highly liquid investments with a maturity at date of purchase of three months or less to be cash equivalents, which, at December 31, 2015, are comprised of money market funds. At December 31, 2014, the Company had $50,000 in a restricted money market account that was held as cash collateral against an outstanding letter of credit for security on a lease. The restriction was removed during 2015 and the cash balance transferred into the Company's money market account.

Accounts Receivable, and Contractual Allowances and Allowance for Doubtful Accounts

Accounts receivable are recorded net of contractual allowances and an allowance for doubtful accounts. At December 31, 2015 and 2014, contractual allowances were $2.1 million and $1.5 million, respectively. The Company estimates an allowance for doubtful accounts based on the aging of the accounts receivable and the historical collection experience for each type of payor. Account balances are charged-off against the allowance when it is probable the receivable will not be recovered.

During the years ended December 31, 2015 and 2014, the Company recognized $33,000 and $177,000 in bad debt expense, respectively. At December 31, 2015 and 2014, there were no allowances for doubtful accounts.

Inventory

Inventory, which consists entirely of raw materials, and includes laboratory 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

Long-lived assets, consisting of property and equipment, are reviewed 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 years ended December 31, 2015 or 2014.

Deferred Offering Costs

During the year ended December 31, 2014, the Company incurred $47,000 in direct costs related to its anticipated public offering of common stock. These costs were deferred and recorded as a long-term asset at December 31, 2014 and reclassified as a reduction to additional paid-in capital upon completion of the 2015 Offering.

Deferred Rent

Where rent abatements are made available to the Company under the terms of a lease agreement, the abatements are accounted for as a reduction of rent expense over the life of the lease and rent expense is recognized on a straight-line basis over the entire term of the lease. The cumulative difference between actual rent payments and recognized rental expense is recorded as deferred rent in the consolidated balance sheets.

Revenue Recognition

Revenues that are derived from testing services are recognized in accordance with revenue recognition accounting guidance, 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.

Revenues are recorded on an accrual basis when the contractual obligations are completed as tests are processed through the Company's 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. Revenues from Medicare, contracted insurance companies and directly billed customers are reported based on the contractual rate. The difference between the amounts billed and the contractual rates from Medicare and contracted insurance companies are recorded as contractual allowances at the same time the revenue is recognized, to arrive at reported net revenue. The contractual rate is based on established agreed upon rates between the Company and the respective payor. Directly billed customers are invoiced at the contractual rate by the Company. Revenues from non-contracted insurance companies are reported based on the amount expected to be collected, which is based on the historical collection experience of each payor or payor group, as appropriate, and anticipated effects of changes in the healthcare industry, if any. 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 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 to date.

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 the Company deals. The Company regularly refines its estimates in order to make 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 anticipated changes in the healthcare industry and adjusts expected revenues for current and subsequent periods accordingly. During the year ended December 31, 2015, net unfavorable changes in estimates were recorded to revenue related to non-contracted revenues recorded in the prior year of $193,000. During the year ended December 31, 2014, net unfavorable changes in estimates were recorded to revenue related to non-contracted revenues recorded in prior years of $380,000, of which $106,000 and $274,000 related to revenues previously recorded during 2012 and 2013, respectively.

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

	Years Ended December 31,	
(in thousands)	2015	2014
Gross revenues	$5,706	$6,484
Less: contractual allowances	(3,168)	(2,164)
Net revenue	$2,538	$4,320

Contractual allowances recorded during the years ended December 31, 2015 and 2014 represented 56% and 33% of gross revenues, respectively. The increase in the contractual allowances is due to changes in the Company's estimates of net revenue for non-contracted payors based on the contractual status and payment policies of the payors, and anticipated changes in the healthcare industry.

Cost of Revenue

Cost of revenue represents the cost of materials, personnel costs, costs associated with processing specimens including pathological review, quality control analyses, and delivery charges necessary to render an individualized test result, depreciation, amortization and royalty expense. Costs associated with performing tests are recorded as the tests are processed.

Royalties

The Company licenses technology for patents for uses of a gene expression profiling ("GEP") assay called MyPRS® and its related technology. Under the terms of the license agreement, the Company is required to pay royalties to UAMS. The royalties are calculated as a fixed percentage of the net revenue received from third parties that the Company generates from using this technology. The Company accrues for such royalties when incurred, which is based on when revenue is collected. Such royalties are included in cost of revenue in the accompanying consolidated statements of operations.

Research and Development

Costs associated with research and development activities are expensed as incurred. Research and development costs primarily include personnel costs, laboratory supplies, reagents, consulting and sponsored research agreements.

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, 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, as well as tax credit and net operating loss carryforwards, 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.

Any interest and penalties related to unrecognized tax benefits are classified as a component of income tax expense.

Stock-Based Compensation

Compensation expense for all stock-based payments made to employees, directors, and consultants are measured and recognized based on estimated fair value, net of an estimated forfeiture rate. These stock-based awards include stock options and restricted stock units. The Company estimates the fair value of stock options granted using the Black-Scholes-Merton (“BSM”), option-pricing model, which requires the use of estimates such as stock price volatility and expected option lives, as well as expected option forfeiture rates. The fair value of stock options granted to employees and directors is estimated at the date of grant.

The fair value of restricted stock units issued to employees and directors is based on the market price of the Company’s common stock on the date of grant and, for nonemployees, at the date when performance is complete. For stock-based compensation awards granted to non-employees, the fair value of the awards are remeasured at each reporting date until vested, with changes in the estimated fair value recognized as an adjustment to compensation expense in the period of change. Upon settlement of all or a portion of the award in cash, the recognized fair value of the corresponding amount of awards is reversed from additional paid-in capital and the excess of the cash payment over this amount is recognized as additional stock-based compensation expense.

Stock-based compensation cost is recognized on a straight-line basis over the requisite service period of the award. Stock-based compensation expense is recognized only for those awards that are ultimately expected to vest. The

Company estimates forfeitures at the time of grant and revises the estimate, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Changes in forfeiture estimates impact compensation cost in the period in which the change in estimate occurs.

Due to the Company's net loss position, no tax benefits for stock-based compensation have been recognized in the statements of cash flows. The Company has not recognized, and does not expect to recognize in the near future, any tax benefit related to stock-based compensation cost as a result of its full valuation allowance on net deferred tax assets and net operating loss carryforwards.

Fair Value of Financial Instruments

The Company's financial instruments that are measured at fair value on a recurring basis consist principally of cash and cash equivalents, restricted cash, accounts receivable, accounts payable and note payable-related party.

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants on the measurement date. Accounting guidance also establishes a fair value hierarchy that requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard describes three levels of inputs that may be used to measure fair value:

Level 1—Observable inputs that reflect quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2—Includes other inputs that are directly or indirectly observable in the marketplace.

Level 3—Unobservable inputs that are supported by little or no market activities, therefore requiring an entity to develop its own assumptions.

At December 31, 2015 and 2014, the Company's cash equivalent instruments consisted of $10.4 million and $0, respectively, in a money market fund which is reported at fair value using Level 1 inputs. The carrying amounts of financial instruments such as restricted cash, accounts receivable, accounts payable and note payable-related party approximate their relative fair values due to the short-term maturities and market rates of interest of these instruments.

At December 31, 2014, the fair value of the Company's remaining lease liability on its vacated facility, which was paid in full during 2015, was measured using estimated net cash flows, discounted using a nominal risk-free rate, which are considered Level 3 inputs. The present value of the remaining lease liability at December 31, 2014 was $248,000.

Net Loss Per Share

Basic and diluted net loss per common share for the periods presented is computed by dividing net loss by the weighted-average number of common shares outstanding during the respective periods, without consideration of common stock equivalents. Basic and diluted net loss per common share includes vested, but unissued restricted stock units from the date of vesting.

Common stock equivalents, determined on a weighted-average outstanding basis, that could potentially reduce net income per common share in the future that were not included in the determination of diluted loss per common share as their effects were antidilutive are as follows:

	December 31,	
	2015	2014
Unvested restricted stock units	431,088	655,200
Options to purchase common stock	355,215	152,000
Warrants to purchase common stock	180,446	42,500
Total	966,749	849,700

Concentration of Credit Risk, Major Customers and Suppliers

Financial instruments that potentially subject the Company to concentrations of credit risk are primarily cash and cash equivalents. Cash is maintained at two financial institutions and, at times, balances may exceed federally insured limits. The Company has not experienced any losses related to these balances. The Company invests excess cash in money market funds under the custodianship of a major financial institution. This diversification of risk is consistent with the Company's policy to ensure safety of principal and maintain liquidity.

The Company had two major customers, UAMS and H. Lee Moffitt Cancer Center and Research Institute ("Moffitt"). Revenue sourced either from or through UAMS accounted for 54% and 84% of net revenue during the years ended December 31, 2015 and 2014, respectively, and revenue sourced through Moffitt accounted for 10% and 9% of net revenue during the years ended December 31, 2015 and 2014 respectively. Accounts receivable from UAMS at December 31, 2015 and 2014 accounted for 19% and 42%, respectively, of total accounts receivable outstanding. At December 31, 2015 and 2014 the Company had no accounts receivable from Moffitt.

Inventory used in the Company's testing process is procured from one supplier. Any supply interruption or an increase in demand beyond such supplier's 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 the Company's business.

Reclassifications

Reclassifications of certain operating expenses in the consolidated statement of operations have been made to year ended December 31, 2014 to conform to the 2015 presentation.

Recent Accounting Pronouncements

In February 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2016-02, which replaces the existing accounting guidance for leases. This standard requires entities that lease assets to recognize the assets and liabilities for the rights and obligations created by those leases on the balance sheet. The standard is effective for fiscal years and the interim periods within those fiscal years beginning after December 15, 2018. The guidance is required to be applied by the modified retrospective transition approach and early adoption is permitted. The Company is currently assessing the impact that adoption of this guidance will have on its consolidated financial statements and footnote disclosures.

In July 2015, the FASB issued ASU 2015-11, which simplifies the measurement of inventories valued under most methods, including the Company's inventories valued under the FIFO method. Under this new guidance, inventories valued under these methods would be valued at the lower of cost and net realizable value, with net realizable value defined as the estimated selling price less reasonable costs to sell the inventory. The new guidance is effective prospectively for the Company's quarterly reporting period beginning January 1, 2017, with early adoption permitted. The Company is currently assessing the impact that this standard will have on its consolidated financial statements.

In May 2014, the FASB issued ASU 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. This standard 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. This standard also requires additional disclosure about the nature, amount, timing and uncertainty of assets recognized from costs incurred to fulfill a contract and was originally effective for the Company's annual reporting period beginning January 1, 2018, including interim periods within that reporting period. In July 2015, the FASB voted to defer the effective date of this ASU by one year, which is effective for the Company's annual reporting period beginning January 1, 2019, with early adoption permitted beginning with the annual reporting period ending December 31, 2017. 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.

In August 2014, the FASB issued ASU 2014-15, Presentation of Financial Statements — Going Concern, which provides guidance on management's responsibility in evaluating whether there is substantial doubt about a company's ability to continue as a going concern and the related footnote disclosure. For each reporting period, management will be required to evaluate whether there are conditions or events that raise substantial doubt about a company's ability to continue as a going concern within one year from the date the financials are issued. When management identifies conditions or events that raise substantial doubt about the entity's ability to continue as a going concern, this standard also outlines disclosures that are required in the company's footnotes based on whether or not there are any plans intended to mitigate the relevant conditions or events to alleviate the substantial doubt. This standard becomes effective for the Company's annual reporting period ending December 31, 2016, and for annual and interim periods thereafter. Early application is permitted. The Company does not expect the adoption of this standard to have a material impact on its consolidated financial statements.

Future Accounting Pronouncements

Section 107 of the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act") provides that an emerging growth company, such as the 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, the Company's consolidated financial statements may not be comparable to companies that comply with public company effective dates.

3. Balance Sheet Accounts and Supplemental Disclosures

Property and Equipment

Property and equipment consist of the following:

	December 31,	
(in thousands)	2015	2014
Laboratory and computer equipment	$1,817	$1,711
Furniture and fixtures	69	52
Leasehold improvements	6	6
	1,892	1,769
Less: accumulated depreciation and amortization	(739)	(555)
Total property and equipment, net	$1,153	$1,214

An asset with a cost of $300,000 recorded under a capital lease is included in the laboratory equipment balance at December 31, 2015 and 2014.

Accrued Expenses

Accrued expenses consist of the following:

	December 31,	
(in thousands)	2015	2014
Accrued bonuses	$592	$183
Accrued compensation and related expenses	234	74
Accrued interest payable – related party	73	—
Accrued contract research and development	35	—
Accrued offering costs	—	42
Other	84	62
Total accrued expenses	$1,018	$361

4. Amount Due Related Party, Notes Payable and Capital Lease Obligations

Note Payable — Related Party and Amounts Due to Related Party

On March 6, 2015, the amounts due to related party, aggregating $1,045,000, were converted into an unsecured note payable – related party, bearing interest at 8% per annum and due on demand. The principal amount of the note was increased by $60,000 over the amounts due to related party to $1,105,000 to provide the equivalent of 8% per annum interest for the period of time the amounts due to related party were held as a payable in exchange for a provision that the related party would not call the note prior to June 30, 2015. The increase in the principal amount of the note was deferred and amortized to interest expense over the initial term of the note to June 30, 2015. Interest expense related to this note during the year ended December 31, 2015 was $132,000. The note balance at December 31, 2015 was $1,105,000 and accrued interest payable of $73,000 is included in accrued liabilities in the consolidated balance sheet at December 31, 2015.

During the year ended December 31, 2014, the Company’s then majority member, through various entities controlled by such member, loaned a net amount of $795,000 to the Company to support its operations. Pursuant to the terms of an Exchange Agreement, and prior to the Corporate Conversion, $27.3 million of the Secured 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 $1.0 million as of that date, along with an additional $45,000, which was advanced to pay for certain offering expenses, was reclassified as unsecured amounts due to related party in the consolidate balance sheet. Such amounts due were converted into an unsecured note payable – related party as discussed above.

Prior to the Debt Conversion, the Secured Note bore interest at 8% compounded quarterly, was due on demand and collateralized by substantially all assets of the Company. The average amount of borrowings during the years ended December 31, 2014 (prior to conversion) were $27.4 million. Interest expense related to the note during the year ended December 31, 2014 was $1.1 million.

Capital Lease Obligation

In December 2014, the Company entered into a new two-year capital lease obligation for laboratory equipment which expires in January 2017, and provides for monthly rent of $7,200. The lease obligations at December 31, 2015 and 2014 were $88,000 and $164,000, which are net of $6,000 and $8,000, respectively, in unamortized discounts. Future maturities of this obligation at December 31, 2015 are $86,000 and $7,000 during 2016 and 2017, respectively. Laboratory equipment with a net book value of $270,000 at December 31, 2015 serves as collateral for this obligation.

5. Stockholders' Equity

Preferred Shares

The Company has authorized 5,000,000 shares of preferred stock, of which no shares were issued or outstanding at December 31, 2015 or 2014. The Company's board of directors has the authority to issue preferred stock in one or more classes or series and to fix the designations, powers, preferences and rights, and the qualifications, limitations or restrictions thereof, including dividend rights, conversion right, voting rights, terms of redemption, liquidation preferences and the number of shares constituting any class or series, without further vote or action by the stockholders.

Common Shares

The Company has authorized 50,000,000 shares of common stock, of which 10,635,454 and 3,782,629 shares were issued and outstanding at December 31, 2015 and 2014, respectively. Common shares reserved for future issuance upon the exercise, issuance or conversion of the respective equity instruments at December 31, 2015 is as follows:

Issued and Outstanding:	
Restricted stock units	351,758
Stock options	631,567
Warrants	203,214
Shares reserved for future award grants	695,260
Total	1,881,799

Public Offerings of Common Stock

During September 2015, the Company sold 2,734,983 shares of common stock for total cash proceeds of $4.0 million, which is net of $429,000 in sales agent's commissions and offering expenses, pursuant to its July 2015 ATM program. Due to the size of the Company's public float, the current ATM program has been completed, unless and until the Company's public float increases.

On February 20, 2015, the Company completed a public offering of 3,214,285 shares of its common stock, at $2.80 per share, for total cash proceeds of $7.8 million, which is net of $1.2 million in underwriter commissions and offering expenses. In connection with the offering, the Company granted a 45-day option to the underwriter to purchase up to 482,142 shares of common stock to cover overallotments, with an aggregate grant date fair value of $132,000. On February 26, 2015, the underwriters exercised the overallotment option for total cash proceeds of $1.3 million, which is net of $95,000 in underwriter commissions. In connection with this offering, as a portion of the underwriting compensation payable to the underwriters, the Company issued warrants to purchase 160,714 shares of its common stock to the representative of the underwriters with an aggregate grant date fair value of $198,000. The warrants are exercisable at any time from February 2016 through February 2020 at an exercise price of $3.50 per share. The aggregate fair values of the warrants and overallotment option issued were recorded as an increase to additional paid-in capital with an offset to the proceeds from the offering. The net contribution to additional paid-in capital was $8.7 million after deducting the noncash fair values of warrants and overallotment option issued in connection with the offering.

The estimated fair values of the warrants and overallotment option were determined on their respective measurement dates using the BSM option valuation model with the following assumptions:

	Warrants	Overallotment Option
Fair value of underlying common stock	$ 2.57	$ 2.62
Exercise price	$ 3.50	$ 2.60
Risk-free interest rate	1.61 %	0.02 %
Volatility	65.5 %	73.0 %
Dividend yield	0 %	0 %
Contractual term (in years)	5.0	0.12
Weighted-average measurement date fair value per share	$ 1.23	$ 0.27

Initial Public Offering

On June 23, 2014, the Company completed an IPO of 850,000 shares of its common stock, at $10.00 per share, for total net cash proceeds of $6.1 million, which is net of $2.4 million in underwriter commissions and offering expenses. The net contribution to additional paid-in capital was $5.8 million after deducting the noncash fair values of warrants and option for overallotment shares issued in connection with the IPO.

In connection with the IPO in June 2014, the Company issued warrants to certain designees of the underwriter to purchase an aggregate of 42,500 shares of common stock with an aggregate grant date fair value of $143,000. The warrants are exercisable at any time from June 17, 2015 through June 17, 2019. Also, in connection with the IPO, the Company granted a 45-day option to the underwriter to purchase up to 127,500 shares of common stock to cover overallotments, with an aggregate grant date fair value of $157,000. The aggregate fair values of the warrants and stock option issued were recorded as an increase to additional paid-in capital with an offset to the proceeds from the IPO.

The estimated fair values of the warrants and stock option award were determined on their respective measurement dates using the BSM option valuation model with the following assumptions:

	Warrants	Options
Fair value of common stock	$7.84	$10.00
Exercise price	$12.50	$9.30
Risk-free interest rate	1.72 %	0.035%
Volatility	64.6 %	63.0 %
Dividend Yield	0 %	0 %
Contractual term (in years)	5.0	0.12
Weighted-average measurement date fair value per share	$3.38	$1.23

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). In connection with the Debt Conversion, on June 17, 2014, the note payable — related party 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 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.

6. Stock Compensation Plan

The Company’s 2014 Stock Incentive Plan (the “Plan”) provides for stock awards that 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. On June 18, 2015, the Company’s stockholders approved the First Amendment to the Plan which provided for an increase in the number of shares of common stock reserved for issuance under the Plan from 1,245,399 to 2,100,000, and an annual increase on the first day of each calendar year, beginning with January 1, 2016 that is equal to the lesser of four percent of the shares of common stock outstanding on the last day of the immediately preceding fiscal year or a smaller number of shares as determined by the board of directors. At December 31, 2015, up to 1,678,585 shares of common stock may be issued under the Plan, of which 983,325 shares are reserved for issuance upon the exercise of outstanding options and vesting of outstanding restricted stock units, and 695,260 shares are available for future grants.

Restricted Stock Units (“RSUs”)

All of the Company's outstanding RSU agreements provide for the settlement of the vested RSUs in shares of the Company's common stock equal to the number of vested RSUs or an amount in cash equal to the product of the fair market value of the common stock on the respective payment date and the number of vested RSUs, or some combination of common shares and cash as determined by the plan administrator as of each settlement date.

RSUs generally vest over a period of one to four years, subject to earlier cancellation or forfeiture prior to vesting upon cessation of service to the Company. The total fair value of RSUs that vested during the year ended December 31, 2015 was $734,000. A summary of the activity related to RSUs during year ended December 31, 2015 is as follows:

	Number of Shares	Weighted-Average Grant Date Fair Value per Share
Unvested at December 31, 2014	655,200	$ 9.20
Granted	20,000	$ 1.62
Vested	(459,208)	$ 9.23
Unvested at December 31, 2015	215,992	$ 8.43

During the year ended December 31, 2015, the Company issued 421,415 shares in settlement of RSUs that vested in 2015 and 2014. As permitted under the Plan, the Company repurchased 186,920 shares with an aggregate value of $363,000 during the year ended December 31, 2015 to satisfy tax withholding obligations for employees in connection with the vesting of restricted stock units previously granted.

Stock Options

Stock options generally vest over a four-year period and have a maximum term of ten years from the date of grant, subject to earlier cancellation prior to vesting upon cessation of service to the Company. A summary of the activity related to stock option awards during the year ended December 31, 2015 is as follows:

	Shares Subject to Options	Weighted-Average Exercise Price per Share	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2014	152,000	$ 4.53		
Granted	513,400	$ 1.60		
Forfeitures and cancellations	(33,833)	$ 2.14		
Outstanding at December 31, 2015	631,567	$ 2.28	9.4	$ —
Options exercisable at December 31, 2015	78,009	$ 3.20	9.1	$ —
Options vested and expected to vest as of December 31, 2015	631,567	$ 2.28	9.4	$ —

Stock-Based Compensation Expense

The estimated fair value of each stock option award was determined on the date of grant using the BSM option valuation model with the following assumptions:

	Years Ended December 31,	
	2015	2014
Risk-free interest rate	1.34% - 1.94%	1.73% - 2.03%
Expected volatility	58.9% - 67.8%	65.3% - 66.9%
Weighted-average volatility	60.2%	66.3%
Dividend yield	0%	0%
Expected term (in years)	6.0	6.3
Weighted-average grant date fair value per share	$0.90	$2.81

The fair value of each stock option is estimated on the date of grant using the BSM option pricing model which requires the input of highly subjective assumptions. Because the option-pricing model is sensitive to change in the input assumptions, different determinations of the required inputs may result in different fair value estimates of the options. The risk-free interest rate is based on the rate currently available on U.S. Treasury issues with terms approximating the expected term of the option. Due to the Company’s limited historical stock data, the estimated future stock price volatility is based upon the average historical volatilities of a group of peer companies. The Company has

not paid any dividends on common stock since the Corporate Conversion and does not anticipate paying dividends on common stock in the foreseeable future. The Company did not issue options prior to the IPO and, therefore, has no history of option exercises. As such, the ‘simplified’ method has been used to estimate the expected term of options.

Stock-based compensation expense is recognized only for those awards that are ultimately expected to vest. Forfeitures are required to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Total non-cash stock-based compensation expense for all stock awards that was recognized in the consolidated statements of operations is as follows:

	Years Ended December 31,	
(in thousands)	2015	2014
Cost of revenue	$57	$257
Selling and marketing	62	16
Research and development	98	121
General and administrative	2,798	3,904
Total	$3,015	$4,298

At December 31, 2015, there was $1.5 million of unamortized compensation cost related to unvested RSUs which is expected to be recognized over a remaining weighted-average vesting period of 1.3 years. At December 31, 2015, there was $628,000 of unamortized compensation cost related to unvested stock option awards, which is expected to be recognized over a remaining weighted-average vesting period of 2.8 years.

7. Commitments and Contingencies

Operating Leases

During 2014, the Company entered into a new lease for office space for its corporate headquarters in California, which expires in October 2017. The lease provides for monthly rent of $14,000, which will increase at a rate of 3% annually, and includes three months of rent abatement during the first year with an option to renew the lease for one additional 36-month period.

The Company leases a laboratory and office facility under a non-cancellable operating lease agreement, which expires on March 31, 2016. Monthly rent expense is $6,400. Subsequent to December 31, 2015, in February 2016, the Company extended the lease for one year to March 2017, with monthly rent expense of $6,750.

Rent expense during the years ended December 31, 2015 and 2014 was $234,000 and $149,000, respectively. In addition, certain administrative functions were performed at an office location leased by the majority stockholder through September of 2014 at no charge to the Company. No amount has been charged for these functions as it is not deemed reasonable to estimate.

At December 31, 2015, the future minimum annual obligations under non-cancellable operating lease commitments, excluding the abandoned lease liability described below, are $173,000 and $148,000 during 2016 and 2017, respectively.

Lease Abandonment

In March 2014, the Company entered into a termination agreement with the landlord of one of its operating leases and agreed to a termination fee of $565,000, payable in monthly installments of $31,400, which were paid in full through August 2015. The present value of the remaining payments under the termination agreement at December 31, 2014 and reported in the consolidated balance sheet was $248,000. The termination agreement resulted in a change in estimate which is reported as an additional expense of $46,000 during the year ended December 31, 2014 and is included in general and administrative expenses in the consolidated statement of operations.

Licensing Agreement

The Company has a licensing agreement with UAMS for the exclusive use of patents used in the GEP assay, MyPRS® and its related technology through April 2020. The agreement is effective through the earlier of the expiration of the related patents or termination of the agreement pursuant to its terms. The Company may terminate the agreement for any reason upon 90 days written notice. UAMS may terminate the agreement with 90 days written notice upon a material breach of the agreement by the Company or if the Company challenges the validity of any licensed patent in a court of competent jurisdiction. Under the terms of the license agreement, the Company is required to pay $30,000 in annual minimum royalties on sales to customers other than UAMS unless sales, as defined in the agreement, exceed certain thresholds in which case the additional royalties would range from 2% – 4%. Total royalty expense during each of the years ended December 31, 2015 and 2014 was $30,000.

Services Agreement

The Company has a services agreement with a third party to assist with billing and collections from customers through March 2017. The agreement contains automatic one-year renewals, unless a 90-day termination notice is given by either party. Under the terms of the agreement, fees to the third party are based on a percentage of cash collections. The Company has a minimum commitment of $10,000 per month. During the years ended December 31, 2015 and 2014, the Company paid $126,000 and $142,000, respectively, to this vendor. At December 31, 2015, the future minimum commitments under this agreement are $120,000 and $30,000 during the years ended December 31, 2016 and 2017, respectively.

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 lawsuit.

Litigation Settlement

In August 2013, the Company settled a lawsuit in which it was the plaintiff for a tortuous interference claim regarding a potential acquisition for a payment of at least $350,000, of which $250,000 was received in January 2014 and the remaining $100,000 was received in January 2015. At December 31, 2014 the Company recorded a receivable for $100,000 in prepaid expenses and other current assets in the consolidated balance sheets, and recognized the related gain for $100,000 during the year ended December 31, 2014.

8. Income Taxes

The principal items accounting for the difference in income taxes computed at the federal statutory tax rate of 34% and the effective income tax rate for the Company's operations during the year ended December 31, 2015 and the period subsequent to the Corporate Conversion on June 17, 2014 through December 31, 2014 are as follows:

(in thousands)	Year Ended December 31, 2015	June 17, 2014 to December 31, 2014
Federal tax at statutory rate	$ (3,851)	$ (2,682)
Signal Genetics LLC loss, prior to Corporate Conversion, not taxed at corporate level	—	425
State taxes, net of federal benefit	(277)	(141)
Change in valuation allowance	3,625	1,356
Nondeductible compensation	526	1,046
Credits and other	(23)	(4)
Total provision for income taxes	$ —	$ —

Significant components of the Company's deferred tax assets and liabilities are as follows:

	December 31,	
(in thousands)	2015	2014
Deferred Tax Assets:		
Net operating loss carryforwards	$3,913	$853
Stock-based compensation	810	463
Accrued compensation	257	74
Deferred rent	14	—
Credit carryforward	52	6
Total deferred tax assets	5,046	1,396
Valuation allowance	(4,696)	(1,196)
Deferred tax assets, net of valuation allowance	350	200
Deferred tax liabilities:		
Depreciation and amortization	(350)	(200)
Net deferred tax assets	$—	$—

A valuation allowance is established when it is more likely than not the future realization of all or some of the deferred tax assets will not be achieved. Based on the available evidence at December 31, 2015 and 2014, the Company was not able to conclude that it is more likely than not certain deferred tax assets will be realized, and, therefore, recorded valuation allowances of $4.7 million and $1.2 million, respectively, against deferred tax assets.

As of December 31, 2015, the Company had operating loss carryforwards for federal and state tax purposes of $10.6 million each, which will begin to expire in 2035. In addition, the Company has $52,000 in federal tax credits at December 31, 2015 that will begin to expire in 2035.

Internal Revenue Code Sections 382 and 383 limit the availability of income tax net operating losses and tax credit carryforwards that arise prior to certain cumulative changes in a corporation's ownership resulting in change of control of the Company should such changes in ownership occur. Pursuant to Internal Revenue Code Sections 382 and 383, use of the Company's net operating loss and credit carryforwards may be limited if a cumulative change in ownership of more than 50% occurs within a three-year period.

The Company’s 2015 and 2014 tax years remain open to examination by one or more major taxing jurisdictions to which the Company is subject.