SIGNAL GENETICS LLC
Form FWP
June 02, 2014

1 CONFIDENTIAL 6/2/2014 Investor Presentation

2 Forward Looking Statements All statements pertaining to future financial and/or operating results, future growth in research, technology, clinical development, and potential opportunities for Signal Genetics, Inc. (the “Company”) and its products and services, along with other statements about the future expectations, beliefs, goals, plans, or prospects expressed by management constitute forward - looking statements. Any statements that are not historical fact (including, but not limited to, statements that contain words such as "will," "believes," "plans," "anticipates," "expects," "estimates") should also be considered to be forward - looking statements. By their nature, forward - looking statements involve risks and uncertainties, including, without limitation, risks inherent in the development or commercialization of potential products, uncertainty in the results of clinical trials or regulatory approvals, need and ability to obtain future capital, and maintenance of intellectual property rights and other risks discussed in the Company’s registration statement on Form S - 1 and other reports filed with the Securities and Exchange Commission (the “SEC”), which are available for review at http://www.sec.gov/. Actual results may differ materially from the results anticipated in these forward - looking statements and as such should be evaluated together with the many uncertainties that affect the Company's business. Any forward - looking statements that we make in this presentation speak only as of the date of such statement, and we undertake no obligation to update such statements to reflect events or circumstances after the date of this presentation, except as required by law.

3 Free Writing Prospectus Statement This presentation highlights basic information about us and the offering. Because it is a summary, it does not contain all of the information that you should consider before investing. This offering may only be made by means of a prospectus. We have filed a registration statement on Form S - 1 (including a preliminary prospectus) with the SEC for the offering to which this presentation relates. The registration statement has not yet become effective. Before you invest, you should read the preliminary prospectus in the registration statement (including the risk factors described therein) and other documents we have filed with the SEC for more complete information about the Company and the offering. You may get these documents for free by visiting EDGAR on the SEC web site at http://www.sec.gov/. The preliminary prospectus, dated June 2, 2014, is available on the SEC web site at http://www.sec.gov/. Alternatively, the Company or any underwriter participating in the offering will arrange to send you the prospectus if you contact Aegis Capital Corp., Prospectus Department, 810 Seventh Avenue, 18th Floor, New York, New York 10019, telephone: 212 - 813 - 1010, e - mail: prospectus@aegiscap.com.

4 Initial Public Offering Summary Updated as of June 2, 2014 Shares Offered Over - Allotment Price Range Exchange / Ticker Use of Proceeds Sole Book - Runner 1,500,000 (100% Primary) 15% or 225,000 (100 % Primary) $10.00 - $12.00 Nasdaq Capital Market / SGNL Expand commercialization efforts, f und continued clinical development of AMG indication, Enhance management team and establish San Diego HQ Aegis Capital Corp. Issuer Signal Genetics, Inc.

5 Signal Genetics at a Glance Molecular diagnostic company focused on Multiple Myeloma (MM) Headquartered in New York City, NY; CLIA - certified lab operations in Little Rock, AR M arketing a proprietary prognostic molecular assay for multiple myeloma - MyPRS ® Exclusive to research performed at the University of Arkansas for Medical Sciences (UAMS) – a leading center for treatment of MM Strong revenue base and early adoption by leading U.S. cancer centers $4.3M of revenue for 2013 Medicare reimbursement approval (Local Coverage Determination: Novitas – Jurisdiction H MAC) Approved coverage policy & in - network with Arkansas Blue Cross & Blue Shield Significant growth opportunity to drive profitability Large untapped market opportunity for expanding use of MyPRS ® in MM Potential for expansion of clinical indications for MyPRS ® into pre - cursor conditions to MM Partner with leading MM pharmaceutical companies with opportunity for additional clinical support service revenue – two collaborations secured to date Leverage proprietary position for new revenue streams from additional esoteric diagnostic services

6 Our Mission Develop, validate and deliver innovative diagnostic services that enable better patient - care decisions

7 What is Multiple Myeloma? Multiple Myeloma (MM) is a cancer of the patient’s plasma cells Plasma cells (PC) are found in the bone marrow PC normally make antibodies that help fight infections Symptoms include fatigue, hypercalcemia, renal failure, bone damage and fractures S econd most prevalent blood cancer 22,350 new diagnoses in 2013 in U.S. 77,600 patients in the U.S. living with MM T umors are molecularly highly heterogeneous making the disease difficult to treat C onsidered incurable – 5 - year survival from diagnosis is 43% Deadliest blood cancer, responsible for 2% of all annual cancer deaths in the U.S. More people die from MM than from melanoma; the deadliest form of skin cancer 2013 NCI Statistics: http:// seer.cancer.gov/statfacts/html/mulmy.html 2003 - 2009 NCI Statistics: http://seer.cancer.gov/faststats

8 MM Pre - cursor Condition - AMG Figure recreated from Dispenzieri, Blood. 2014; 123(1) pg. 4 MM is preceded by a more common, clinically asymptomatic precursor phase Asymptomatic monoclonal gammopathy (AMG) Definition based upon degree of bone marrow infiltration by malignant plasma cells Patients with AMG lack MM related end - organ/tissue injury Classified as monoclonal gammopathy of unknown significance (MGUS) or asymptomatic MM (AMM) There are more than 3 million people in the U.S. >50 yrs. of age with MGUS Current techniques do not enable accurate identification of AMG patients that will convert to full - blown MM Risk of progression ranges from 1% to 10% per year Unmet clinical need for better models to predict progression Kyle et al, NEJM. 2006; 354(13) pg. 1362 - 1369 Dhodapkar et al, Blood. 2014; 123(1) pg. 78 - 85

9 MM – The Clinical Dilemma H ighly heterogeneous & deadly cancer ; prediction of a particular patient's outcome is difficult for physicians Current treatment modalities vary from "watchful waiting" – to multi - drug regimens, stem - cell transplants and experimental protocols The selection of the best treatment is highly dependent on the risk assessment of each patient's particular form of MM The classic staging tests include clinical factors, cell morphology, chemical markers, imaging studies and genetic abnormalities Experts agree that current prognostic methodologies lack ability to adequately predict the level of risk associated with each patient's MM – low risk patients receive excessive treatment and high risk patients receive too little treatment Selection of the best course of therapy is challenging given status of conventional prognostic tests Fonseca et al, Sem. In Oncology. 2013; 40(5) pg.554 - 566

Proprietary Assay for Prognosis of Multiple Myeloma Patients 10 MyPRS ®

11 MyPRS ® Highlights A ccurately stratifies patients into more predictable risk categories and molecular disease subtypes Can prevent a low - risk patient from unnecessary , potentially toxic treatment and helps a high - risk patient consider an experimental protocol Precipitates a conversation with patients regarding prognosis Based upon 30 years of patient management and outcome experience from greater than 10,000 patients at University of Arkansas for Medical Sciences (UAMS) Analytical & clinical validity and clinical utility demonstrated in over 4,500 patients documented in peer - reviewed publications from 17 unique patient data sets from 4 countries Protected by 10 issued patents and 26 pending patent applications MyPRS® enables a more personalized risk - adapted therapeutic strategy for MM patients

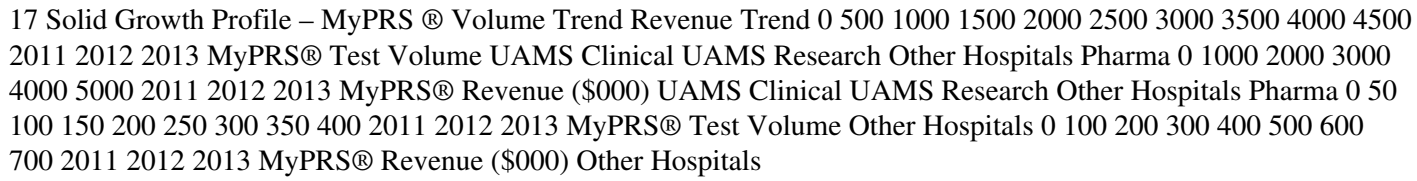
12 MyPRS ® Enables Personalized Treatment for MM Patients Interrogates the expression levels of 70 important genes which stratify high - risk patients Predicts outcome in newly diagnosed patients and is a significant prognostic factor in predicting post - relapse survival Provides MM subtype classification via 700 gene signature to further stratify risk and aid in treatment selection Identifies common cytogenetic abnormalities by examining the expression of 816 genes – Virtual Karyotype Potential to take cost out of the system by minimizing unnecessary therapy and enabling truly personalized treatment options Probability of 5 - year event free survival: 77% Probability of 5 - year overall survival: 83% Probability of 3 - year overall survival: 62% LOW RISK HIGH RISK Probability of 5 - year event free survival: 34% Probability of 5 - year overall survival: 38% Probability of 3 - year overall survival: 17% Newly Diagnosed Patient: Post Relapse Patient: Shaughnessy et al, Blood. 2007; 109(6) pg. 2276 - 2284 Zhan et al, Blood. 2006; (108(6) pg. 2020 - 2028 Zhou et al, Blood. 2012; 119(21) pg. e148 - e150 Based on data accumulated at the University of Arkansas for Medical Sciences

13 MyPRS ® Technology Affymetrix GeneChip ® System Recognized international standard FDA cleared & CE marked for in vitro diagnostic use Validated across thousands of publications Work Flow Customer collects bone marrow aspirate and sends via FedEx ® to our Little Rock, AR CLIA - certified facility Sample processed and gene expression data run through proprietary algorithms Results returned in one week HG U133 Plus 2.0 GeneChip® Risk Gene Expression Profile GeneChip® 3000Dx v.2 ®

14 MyPRS ® Test Report ®

15 Key Growth Opportunities Expand penetration of MyPRS ® in the U.S. market by increasing the geographic coverage of our sales force Currently only 1 Sales FTE Expand to 10 - 15 FTE Focus on Academic Centers Expand the diagnostic indications for MyPRS ® to include AMG One peer - reviewed publication in support already published – Blood; January 2014 Plan to sponsor additional clinical research to further validate clinical utility Pursue additional collaborations with Pharma companies that focus on MM therapy development Two collaborations secured to date (one completed in 2013) 247 new therapies in pre - clinical and Phase I development for MM (Source: IMF) Expand our test offering with the addition of conventional tests important to physicians who care for MM patients Goal is to improve therapy selection Targeted gene sequencing Additional molecular and clinical tests for MM and AMG Continued leverage of our UAMS relationship International Myeloma Foundation http://myeloma.org/ResearchMatrix.action?tabId=4&menuId=206&queryPageId=14

16 Market for MyPRS ® Relative S ize : 2013 target market to 2013 prevalence of AMG in the U.S. Estimate the total MM testing market at 33,500 patients per year Current MM clinical market share estimated at <3% Estimate addition of AMG indication will expand MyPRS ® market to >130,000 patients per year Kyle et al, NEJM. 2006; 354(13) pg. 1362 - 1369 NCI 2013 SEER statistics Company estimates


17 Solid Growth Profile – MyPRS ® Volume Trend Revenue Trend 0 500 1000 1500 2000 2500 3000 3500 4000 4500 2011 2012 2013 MyPRS® Test Volume UAMS Clinical UAMS Research Other Hospitals Pharma 0 1000 2000 3000 4000 5000 2011 2012 2013 MyPRS® Revenue ($000) UAMS Clinical UAMS Research Other Hospitals Pharma 0 50 100 150 200 250 300 350 400 2011 2012 2013 MyPRS® Test Volume Other Hospitals 0 100 200 300 400 500 600 700 2011 2012 2013 MyPRS® Revenue ($000) Other Hospitals

18 Reimbursement - MyPRS ® Medicare LCD and AR - BCBS in - network status Develop and formalize clinical utility dossier with external collaborators and consultants Leverage billing partner experience and expertise Validate economic impact of MyPRS ® Eliminate unnecessary treatment in low risk MM Targeted, aggressive treatment for high risk MM Improvement over conventional staging methods Hire experienced managed care professionals to pursue third - party payor contracts Continue expanding market footprint Broaden the base of healthcare insurance companies that approve reimbursement for MyPRS ® Payor data as of December 31, 2013

19 Our Team Bennett LeBow – Founder, Chairman & Principal Investor Successful investor and entrepreneur MM survivor since 2003 – treated at UAMS Longtime supporter of MM research through numerous grants to UAMS, Harvard and others Samuel Riccitelli – President & CEO, Director Former EVP & COO for Genoptix, Inc. [NASDAQ: GXDX] Senior management positions with Becton Dickinson & Co. and Puritan - Bennett Corp. M.S. Eng. The University of Texas Ryan Van Laar, Ph.D. - Director of Bioinformatics & Lab Agendia, Regeneron Pharmaceuticals, ChipDX Ph.D . Molecular Oncology, University of Melbourne Robin L. Smith, M.D. CEO & Chairman, Neostem, Inc. [NASDAQ: NBS] Board of Trustees, NYU Langone Medical Center Chairman The Stem for Life Foundation Yale Medical School Douglas A. Schuling Former EVP & CFO for Genoptix, Inc. [NASDAQ: GXDX] Former CFO & COO for Point - of - Care Systems Former Hospital Group Controller, Nellcor Puritan Bennett Drake University David A. Gonyer, R.Ph. President & CEO and co - Founder, Evoke Pharma, Inc.[NASDAQ: EVOK] Former VP Strategic & Product Development, Medgenex, Inc. Former VP Sales & Marketing, Xcel Pharmaceuticals, Inc. Ferris State University School of Pharmacy New Board Members

20 Pre - IPO Capital Structure – Updated Capitalization Shares Outstanding % Outstanding Common Stock 2,639,413 76.2% Restricted Stock Units* 748,446 21.6% Warrants 75,000 2.2% Fully - diluted Shares Outstanding 3,462,859 100 % * 250,078 immediately vested but not paid until January 1, 2015 NOTE: The share numbers presented here are subject to change as noted in the preliminary prospectus.

21 Company Comparables - Updated Company Focus Valuation* Foundation Medicine, Inc. Various molecular information products in the U.S. $669M Veracyte, Inc. Molecular cytology company $322M Cancer Genetics, Inc. Genomic testing services $95M Oxford Immunotec Global PLC Immunology tests in U.S., Europe, Japan & China $304M OraSure Technologies, Inc. Oral fluid based Diagnostic products $352M Neogenomics, Inc. Cancer focused genetic testing $168M Genomic Health, Inc. Genomic - based clinical lab services $811M * Market Cap Data as of May 30, 2014 – https ://finance.yahoo.com

22 Investment Summary Growing base of business with novel prognostic MM assay based upon one of the largest patient outcomes datasets in the world today - MyPRS ® Substantial proprietary estate protects our exclusive access to MyPRS ® Exclusive licensing agreement with UAMS for MM based discoveries - potential for additional patent protected new products and out - licensing opportunities Medicare coverage: LCD in place with achievable plan for expanding our reimbursement footprint Opportunity to expand the market for MyPRS ® into precursor conditions to MM – one peer - reviewed study completed for AMG Potential to leverage proprietary position for new revenue streams from additional esoteric diagnostic services Experienced team & oncology - centered genomic laboratory & clinical trial services in place

Thank You