

SIGNAL GENETICS, INC.  
Form SC 13G  
February 20, 2015  
**SECURITIES  
AND  
EXCHANGE  
COMMISSION  
Washington,  
D.C. 20549**

**SCHEDULE  
13G**

Under the  
Securities  
Exchange Act of  
1934

(Amendment  
No. )\*

Signal Genetics,  
Inc.  
(Name of Issuer)

Common Stock,  
\$0.01 par value  
(Title of Class of  
Securities)

826640104  
(CUSIP Number)

February 17,  
2015  
(Date of event  
which requires  
filing of this  
statement)

Check the  
appropriate box  
to designate the  
rule pursuant to  
which this  
Schedule 13G is  
filed:

- Rule 13d-1(b)
- Rule 13d-1(c)
- Rule 13d-1(d)

(Page 1 of 9  
Pages)

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\*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

<b>1</b>	NAMES OF REPORTING PERSONS
	Empery Asset Management, LP
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER (b) " OF A GROUP
<b>3</b>	SEC USE ONLY CITIZENSHIP OR PLACE OF ORGANIZATION
<b>4</b>	Delaware
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	SOLE VOTING POWER
<b>5</b>	
<b>6</b>	470,000 shares of Common Stock
<b>7</b>	SOLE DISPOSITIVE POWER
<b>8</b>	SHARED DISPOSITIVE POWER

470,000 shares  
of Common  
Stock

AGGREGATE  
AMOUNT  
BENEFICIALLY  
OWNED BY EACH  
REPORTING  
PERSON

9

470,000 shares of  
Common Stock

CHECK BOX  
IF THE  
AGGREGATE  
AMOUNT IN ..  
ROW (9)  
EXCLUDES  
CERTAIN  
SHARES  
PERCENT OF  
CLASS

10

REPRESENTED BY  
AMOUNT IN ROW  
(9)

11

6.69%  
TYPE OF  
REPORTING  
PERSON

12

PN

**1** NAMES OF REPORTING PERSONS

Ryan M. Lane

**2** CHECK THE APPROPRIATE BOX IF A MEMBER (b) OF A GROUP

**3** SEC USE ONLY CITIZENSHIP OR PLACE OF ORGANIZATION

**4**

United States

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH

**5** SOLE VOTING POWER

SHARED VOTING POWER

**6** 470,000 shares of Common Stock

**7** SOLE DISPOSITIVE POWER

**8** SHARED DISPOSITIVE POWER

470,000 shares of Common Stock

AGGREGATE  
AMOUNT  
BENEFICIALLY  
OWNED BY EACH  
REPORTING  
PERSON

9

470,000 shares of  
Common Stock

CHECK BOX  
IF THE  
AGGREGATE  
AMOUNT IN ..  
ROW (9)

10

EXCLUDES  
CERTAIN  
SHARES  
PERCENT OF  
CLASS  
REPRESENTED BY  
AMOUNT IN ROW  
(9)

11

6.69%  
TYPE OF  
REPORTING  
PERSON

12

IN

**1** NAMES OF REPORTING PERSONS

Martin D. Hoe

**2** CHECK THE APPROPRIATE BOX IF A MEMBER (b) " OF A GROUP

**3** SEC USE ONLY CITIZENSHIP OR PLACE OF ORGANIZATION

**4**

United States

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH

**5** SOLE VOTING POWER

SHARED VOTING POWER

**6** 470,000 shares of Common Stock

**7** SOLE DISPOSITIVE POWER

**8** SHARED DISPOSITIVE POWER

470,000 shares of Common Stock

AGGREGATE  
AMOUNT  
BENEFICIALLY  
OWNED BY EACH  
REPORTING  
PERSON

9

470,000 shares of  
Common Stock

CHECK BOX  
IF THE  
AGGREGATE  
AMOUNT IN ..  
ROW (9)

10

EXCLUDES  
CERTAIN  
SHARES  
PERCENT OF  
CLASS  
REPRESENTED BY  
AMOUNT IN ROW  
(9)

11

6.69%  
TYPE OF  
REPORTING  
PERSON

12

IN

**Item 1(a). NAME OF ISSUER:**

The name of the issuer is Signal Genetics, Inc. (the "Company").

**Item 1(b). ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES:**

The Company's principal executive offices are located at 5740 Fleet Street, Carlsbad, California 92008.

**Item 2(a). NAME OF PERSON FILING:**

This statement is filed by the entities and persons listed below, who are collectively referred to herein as "Reporting Persons," with respect to the shares of Common Stock (as defined in Item 2(d) below) of the Company:

Investment Manager

(i) Empery Asset Management, LP (the "Investment Manager"), with respect to the shares of Common Stock held by one or more funds to which the Investment Manager serves as investment manager (the "Empery Funds").

Reporting Individuals

(ii) Mr. Ryan M. Lane ("Mr. Lane"), with respect to the shares of Common Stock held by the Empery Funds.

(iii) Mr. Martin D. Hoe ("Mr. Hoe"), with respect to the shares of Common Stock held by the Empery Funds.

The Investment Manager serves as the investment manager to each of the Empery Funds. Each of Mr. Lane and Mr. Hoe (the "Reporting Individuals") is a Managing Member of Empery AM GP, LLC (the "General Partner"), the general partner of the Investment Manager.

**Item 2(b). ADDRESS OF PRINCIPAL BUSINESS OFFICE OR, IF NONE, RESIDENCE:**

The address of the business office of each of the Reporting Persons is:

1 Rockefeller Plaza, Suite 1205

New York, New York 10020

**Item 2(c). CITIZENSHIP:**

Citizenship is set forth in Row 4 of the cover page for each Reporting Person hereto and is incorporated herein by reference for each such Reporting Person.

**Item 2(d). TITLE OF CLASS OF SECURITIES:**

Common Stock, \$0.01 par value (the "Common Stock")

**Item 2(e). CUSIP NUMBER:**

826640104

**Item 3. IF THIS STATEMENT IS FILED PURSUANT TO RULES 13d-1(b) OR 13d-2(b) OR (c), CHECK WHETHER THE PERSON FILING IS A:**

- (a) " Broker or dealer registered under Section 15 of the Act,
- (b) " Bank as defined in Section 3(a)(6) of the Act,
- (c) " Insurance Company as defined in Section 3(a)(19) of the Act,
- (d) " Investment Company registered under Section 8 of the Investment Company Act of 1940,
- (e) " Investment Adviser registered under Section 203 of the Investment Advisers Act of 1940,
- (f) " Employee Benefit Plan or Endowment Fund in accordance with Rule 13d-1(b)(1)(ii)(F),
- (g) " Parent Holding Company or control person in accordance with Rule 13d-1(b)(1)(ii)(G),
- (h) " Savings Association as defined in Section 3(b) of the Federal Deposit Insurance Act,
- (i) " Church Plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act of 1940,
- (j) " A non-U.S. institution in accordance with Rule 13d-1(b)(1)(ii)(J);
- (k) " Group, in accordance with Rule 13d-1(b)(1)(ii)(K).

If filing as a non-U.S. institution in accordance with Rule 13d-1(b)(1)(ii)(J), please

specify the type of institution: \_\_\_\_\_

**Item 4. OWNERSHIP.**

The information as of the date of the event which requires filing of this statement required by Items 4(a) – (c) is set forth in Rows 5 – 11 of the cover page for each Reporting Person hereto and is incorporated herein by reference for each such Reporting Person. The percentage set forth in Row 11 of the cover page for each Reporting Person is based on 7,022,848 shares of Common Stock issued and outstanding as of February 17, 2015 as represented in the Company's Prospectus filed with the Securities and Exchange Commission on February 19, 2015 pursuant to Rule 424(b)(4) of the Securities Act of 1933, as amended.

The Investment Manager, which serves as the investment manager to the Empery Funds, may be deemed to be the beneficial owner of all shares of Common Stock held by the Empery Funds. Each of the Reporting Individuals, as Managing Members of the General Partner of the Investment Manager with the power to exercise investment discretion, may be deemed to be the beneficial owner of all shares of Common Stock held by the Empery Funds. The foregoing should not be construed in and of itself as an admission by any Reporting Person as to beneficial ownership of shares of Common Stock owned by another Reporting Person. Each of the Reporting Individuals hereby disclaims any beneficial ownership of any such shares of Common Stock.

**Item 5. OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS.**

Not applicable.

**Item 6. OWNERSHIP OF MORE THAN FIVE PERCENT ON BEHALF OF ANOTHER PERSON.**

Not applicable.

**Item 7. IDENTIFICATION AND CLASSIFICATION OF THE SUBSIDIARY WHICH ACQUIRED THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING COMPANY.**

Not applicable.

**Item 8. IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF THE GROUP.**

Not applicable.

**Item 9. NOTICE OF DISSOLUTION OF GROUP.**

Not applicable.

**Item 10. CERTIFICATION.**

Each of the Reporting Persons hereby makes the following certification:

By signing below each Reporting Person certifies that, to the best of its knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

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SIGNATURES

After reasonable inquiry and to the best of our knowledge and belief, the undersigned certify that the information set forth in this statement is true, complete and correct.

DATED: February 20, 2015

EMPERY ASSET MANAGEMENT, LP

By: EMPERY AM GP, LLC, its General Partner

By: /s/ Ryan M. Lane

Name: Ryan M. Lane

Title: Managing Member

/s/ Ryan M. Lane

Ryan M. Lane

/s/ Martin D. Hoe

Martin D. Hoe

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EXHIBIT 1

JOINT ACQUISITION STATEMENT  
PURSUANT TO RULE 13d-1(k)

The undersigned acknowledge and agree that the foregoing statement on Schedule 13G is filed on behalf of each of the undersigned and that all subsequent amendments to this statement on Schedule 13G shall be filed on behalf of each of the undersigned without the necessity of filing additional joint acquisition statements. The undersigned acknowledge that each shall be responsible for the timely filing of such amendments, and for the completeness and accuracy of the information concerning him or it contained therein, but shall not be responsible for the completeness and accuracy of the information concerning the others, except to the extent that he or it knows or has reason to believe that such information is inaccurate.

DATED: February 20, 2015

EMPERY ASSET MANAGEMENT, LP  
By: EMPERY AM GP, LLC, its General Partner

By: /s/ Ryan M. Lane  
Name: Ryan M. Lane  
Title: Managing Member

/s/ Ryan M. Lane  
Ryan M. Lane

/s/ Martin D. Hoe  
Martin D. Hoe