UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT Pursuant to Section 13 or 15(d) of The Securities Exchange Act of 1934

Date of Report (Date of Earliest Event Reported): September 16, 2014

Zafgen, Inc.

(Exact name of registrant as specified in its charter)

DELAWARE (State or other jurisdiction of incorporation)

> 175 Portland Street Boston, MA (Address of principal executive offices)

001-36510 (Commission File Number) 20-3857570 (I.R.S. Employer Identification No.)

02114 (Zip Code)

Registrant's telephone number, including area code (617) 622-4003

Not Applicable (Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

□ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

□ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

D Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 5.02. Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

On September 16, 2014, Zafgen, Inc. (the "Company") elected Frances K. Heller to the Board of Directors of the Company. Ms. Heller was elected as a Class II director and will serve until the Company's annual meeting of stockholders in 2016 or until her successor is duly elected and qualified, and was also appointed to serve on the Company's Audit Committee. Ms. Heller previously served as a director of the Company from October 2011 to December 2012.

Most recently, Ms. Heller was senior vice president of business development at Bristol-Myers Squibb and a Trustee of the Bristol Myers Foundation. Prior to joining Bristol-Myers Squibb, Ms. Heller was executive vice president of business development at Exelixis Pharmaceuticals and before Exelixis, Ms. Heller was head of strategic alliances at Novartis Pharmaceuticals, where she was responsible for transactions with partners in the pharmaceutical and biotech industries, as well as academic institutions worldwide. Ms. Heller currently serves as a Trustee of the Dana Farber Cancer Institute.

As a non-employee director, Ms. Heller will receive cash and equity compensation paid by the Company pursuant to its non-employee director compensation program. There are no arrangements or understandings between Ms. Heller and any other person pursuant to which Ms. Heller was selected as a director, and there are no transactions between Ms. Heller and the Company that would require disclosure under Item 404(a) of Regulation S-K.

* * *

SIGNATURES

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

Date: September 18, 2014

ZAFGEN, INC.

By: /s/ Thomas E. Hughes Thomas E. Hughes. Ph.D. Chief Executive Officer