

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

FORM 8-A

FOR REGISTRATION OF CERTAIN CLASSES OF SECURITIES
PURSUANT TO SECTION 12(b) OR (g) OF THE
SECURITIES EXCHANGE ACT OF 1934

Zafgen, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State of incorporation or organization)

One Broadway, 8th Floor
Cambridge, Massachusetts
(Address of principal executive offices)

27-3857670
(I.R.S. Employer
Identification No.)

02142
(Zip Code)

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

Title of each class
to be so registered
Common Stock, par value \$0.001 per share

Name of each exchange on which
each class is to be
registered
The NASDAQ Stock Market LLC

If this form relates to the registration of a class of securities pursuant to Section 12(b) of the Exchange Act and is effective pursuant to General Instruction A. (c), check the following box.

If this form relates to the registration of a class of securities pursuant to Section 12(g) of the Exchange Act and is effective pursuant to General Instruction A. (d), check the following box.

Securities Act registration statement file number to which this form relates: **333-195391**

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

INFORMATION REQUIRED IN REGISTRATION STATEMENT

Item 1. Description of Registrant's Securities to be Registered.

For a description of the Registrant's common stock, par value \$0.001 per share (the "Common Stock"), to be registered hereunder, reference is made to the information set forth under the heading "Description of Capital Stock" in the Registrant's prospectus that constitutes a part of the Registrant's Registration Statement on Form S-1, as amended (File No. 333-195391) (the "Registration Statement"), filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), which information is hereby incorporated by reference. The description of the Common Stock included in any form of prospectus subsequently filed by the Registrant with the Commission pursuant to Rule 424(b) under the Securities Act shall be deemed to be incorporated by reference herein.

Item 2. Exhibits.

In accordance with the "Instructions as to Exhibits" with respect to Form 8-A, no exhibits are required to be filed because no other securities of the Registrant are registered on The NASDAQ Stock Market LLC and the securities registered hereby are not being registered pursuant to Section 12(g) of the Securities Exchange Act of 1934, as amended.

SIGNATURE

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereto duly authorized.

ZAFGEN, INC.

Date: June 18, 2014

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