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| OMB APPROVAL | |
| OMB Number: | 3235-0287 |
| Estimated average burden | |
| hours per response: | 0.5 |

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

| | | |
|--|---|--|
| 1. Name and Address of Reporting Person* <u>Barrett Peter</u> (Last) (First) (Middle) <u>C/O ATLAS VENTURE FUND VII, L.P.</u> <u>25 FIRST STREET, SUITE 303</u> (Street) <u>CAMBRIDGE MA 02141</u> (City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol <u>ZAFGEN, INC. [ZFGN]</u> | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner Officer (give title below) Other (specify below) |
| | 3. Date of Earliest Transaction (Month/Day/Year) <u>06/24/2014</u> | |
| 4. If Amendment, Date of Original Filed (Month/Day/Year) | | |

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | | 4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5) | | | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|------------|-------|---|--|---|
| | | | Code | V | Amount | (A) or (D) | Price | | | |
| Common Stock | 06/24/2014 | | C | | 759,236 | A | (1) | 759,236 | I | See Footnote ⁽⁵⁾ |
| Common Stock | 06/24/2014 | | C | | 2,810,709 | A | (2) | 3,569,945 | I | See Footnote ⁽⁵⁾ |
| Common Stock | 06/24/2014 | | C | | 1,315,859 | A | (3) | 4,885,804 | I | See Footnote ⁽⁵⁾ |
| Common Stock | 06/24/2014 | | C | | 746,926 | A | (4) | 5,632,730 | I | See Footnote ⁽⁵⁾ |

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | | 6. Date Exercisable and Expiration Date (Month/Day/Year) | | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) | | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4) | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |
|--|--|--------------------------------------|--|--------------------------------|---|--|-----|--|-----------------|---|----------------------------|--|--|---|--|
| | | | | Code | V | (A) | (D) | Date Exercisable | Expiration Date | Title | Amount or Number of Shares | | | | |
| Series A Preferred Stock | (1) | 06/24/2014 | | C | | 4,768,001 | | (1) | (1) | Common Stock | 759,236 | (1) | 0 | I | See Footnote ⁽⁵⁾ |
| Series B Preferred Stock | (2) | 06/24/2014 | | C | | 17,651,253 | | (2) | (2) | Common Stock | 2,810,709 | (2) | 0 | I | See Footnote ⁽⁵⁾ |
| Series C Preferred Stock | (3) | 06/24/2014 | | C | | 8,263,595 | | (3) | (3) | Common Stock | 1,315,859 | (3) | 0 | I | See Footnote ⁽⁵⁾ |
| Series D Preferred Stock | (4) | 06/24/2014 | | C | | 4,690,696 | | (4) | (4) | Common Stock | 746,926 | (4) | 0 | I | See Footnote ⁽⁵⁾ |

Explanation of Responses:

- The Series A Preferred Stock automatically converted into Common Stock on a 6.28-for-1 basis at the closing of the Issuer's initial public offering for no consideration, and had no expiration date.
- The Series B Preferred Stock automatically converted into Common Stock on a 6.28-for-1 basis at the closing of the Issuer's initial public offering for no consideration, and had no expiration date.
- The Series C Preferred Stock automatically converted into Common Stock on a 6.28-for-1 basis at the closing of the Issuer's initial public offering for no consideration, and had no expiration date.
- The Series D Preferred Stock automatically converted into Common Stock on a 6.28-for-1 basis at the closing of the Issuer's initial public offering for no consideration, and had no expiration date.
- The securities are directly held by Atlas Venture Fund VII, L.P. ("AV VII LP"). The general partner of AV VII LP is Atlas Venture Associates VII, L.P. ("AVA VII LP"). The general partner of AVA VII LP is Atlas Venture Associates VII, Inc. The Reporting Person disclaims beneficial ownership of all shares except to the extent of his pecuniary interest, if any, therein.

Remarks:

/s/ Peter Barrett 06/26/2014
 ** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.