

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

OMB APPROVAL	
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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* STARR KEVIN P (Last) (First) (Middle) C/O THIRD ROCK VENTURES 29 NEWBURY STREET, 3RD FLOOR (Street) BOSTON MA 02116 (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol ZAFGEN, INC. [ZFGN]	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) Other (specify below)
	3. Date of Earliest Transaction (Month/Day/Year) 06/24/2014	
	4. If Amendment, Date of Original Filed (Month/Day/Year)	6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person

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		3,543,116	A	(1)	3,551,224 ⁽⁵⁾	I	See Footnote ⁽⁴⁾
Common Stock	06/24/2014		C		1,315,859	A	(2)	4,867,083 ⁽⁵⁾	I	See Footnote ⁽⁴⁾
Common Stock	06/24/2014		C		743,070	A	(3)	5,610,153 ⁽⁵⁾	I	See Footnote ⁽⁴⁾

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 B Preferred Stock	(1)	06/24/2014		C			22,250,770	(1)	(1)	Common Stock	3,543,116	(1)	0	I	See Footnote ⁽⁴⁾
Series C Preferred Stock	(2)	06/24/2014		C			8,263,595	(2)	(2)	Common Stock	1,315,859	(2)	0	I	See Footnote ⁽⁴⁾
Series D Preferred Stock	(3)	06/24/2014		C			4,666,478	(3)	(3)	Common Stock	743,070	(3)	0	I	See Footnote ⁽⁴⁾

Explanation of Responses:

- 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 shares are directly held by Third Rock Ventures, L.P. ("TRV"). The general partner of TRV is Third Rock Ventures GP, L.P. ("TRV GP"). The general partner of TRV GP is TRV GP, LLC ("TRV GP LLC"). The individual managers of TRV GP, LLC are Mark Levin ("Levin"), Dr. Robert Tepper ("Tepper") and the Reporting Person and, as such, each of TRV GP, TRV GP LLC, Levin, Tepper and the Reporting Person exercises shared voting and investment power over the shares held of record by TRV. The Reporting Person disclaims beneficial ownership of the shares except to the extent of his pecuniary interest therein, if any.
- Includes 8,108 shares of Common Stock directly owned by the Reporting Person.

Remarks:

/s/ Kevin Starr 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.

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