

**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

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

1. Name and Address of Reporting Person* <u>Third Rock Ventures II, L.P.</u> <hr/> (Last) (First) (Middle) <u>C/O THIRD ROCK VENTURES, LLC</u> <u>29 NEWBURY STREET, 3RD FLOOR</u> <hr/> (Street) <u>BOSTON MA 02116</u> <hr/> (City) (State) (Zip)			2. Issuer Name and Ticker or Trading Symbol <u>Blueprint Medicines Corp [ BPMC ]</u>			5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) Other (specify below)		
			3. Date of Earliest Transaction (Month/Day/Year) <u>02/07/2017</u>					
			4. If Amendment, Date of Original Filed (Month/Day/Year)					
			6. Individual or Joint/Group Filing (Check Applicable Line) Form filed by One Reporting Person <input checked="" 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	02/07/2017		s		1,000,000	D	\$35.275 <sup>(1)</sup>	4,453,753	D <sup>(2)</sup>	
Common Stock								106,490	D <sup>(3)</sup>	
Common Stock								106,493	D <sup>(4)</sup>	

**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)		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)					

1. Name and Address of Reporting Person\*  
Third Rock Ventures II, L.P.  


---

 (Last) (First) (Middle)  
C/O THIRD ROCK VENTURES, LLC  
29 NEWBURY STREET, 3RD FLOOR  


---

 (Street)  
BOSTON MA 02116  


---

 (City) (State) (Zip)

1. Name and Address of Reporting Person\*  
Third Rock Ventures GP II, L.P.  


---

 (Last) (First) (Middle)  
C/O THIRD ROCK VENTURES, LLC  
29 NEWBURY STREET, 3RD FLOOR  


---

 (Street)  
BOSTON MA 02116  


---

 (City) (State) (Zip)

1. Name and Address of Reporting Person\*  
TRV GP II, LLC

(Last)	(First)	(Middle)
C/O THIRD ROCK VENTURES, LLC		
29 NEWBURY STREET, 3RD FLOOR		
<hr/>		
(Street)		
BOSTON	MA	02116
<hr/>		
(City)	(State)	(Zip)

1. Name and Address of Reporting Person\*

[LEVIN MARK J](#)

(Last)	(First)	(Middle)
C/O THIRD ROCK VENTURES, LLC		
29 NEWBURY STREET, 3RD FLOOR		
<hr/>		
(Street)		
BOSTON	MA	02116
<hr/>		
(City)	(State)	(Zip)

1. Name and Address of Reporting Person\*

[STARR KEVIN P](#)

(Last)	(First)	(Middle)
C/O THIRD ROCK VENTURES, LLC		
29 NEWBURY STREET, 3RD FLOOR		
<hr/>		
(Street)		
BOSTON	MA	02116
<hr/>		
(City)	(State)	(Zip)

1. Name and Address of Reporting Person\*

[TEPPER ROBERT I](#)

(Last)	(First)	(Middle)
C/O THIRD ROCK VENTURES, LLC		
29 NEWBURY STREET, 3RD FLOOR		
<hr/>		
(Street)		
BOSTON	MA	02116
<hr/>		
(City)	(State)	(Zip)

**Explanation of Responses:**

1. The price reported is a weighted average price. These shares were sold in multiple transactions at prices ranging from \$35.25 to \$35.45, inclusive. The reporting person undertakes to provide to the Issuer, any security holder of the Issuer, or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares sold at each separate price within the ranges set forth in this footnote (1).
2. These shares are directly held by Third Rock Ventures II, L.P. ("TRV II"). The general partner of TRV II is Third Rock Ventures GP II, L.P. ("TRV GP II"). The general partner of TRV GP II is TRV GP II, LLC ("TRV GP II LLC"). The individual managers of TRV GP II LLC are Mark Levin ("Levin"), Kevin Starr ("Starr") and Dr. Robert Tepper ("Tepper"). Each of TRV GP II, TRV GP II LLC, Levin, Starr and Tepper disclaims beneficial ownership of the shares except to the extent of its or his pecuniary interest therein, if any, and this report shall not be deemed an admission that it or he is the beneficial owner of such shares.
3. These shares are directly held by Tepper.
4. These shares are directly held by Levin.

**Remarks:**

<a href="#">/s/ Kevin Gillis, Chief Financial Officer of TRV GP II, LLC, general partner of Third Rock Ventures GP II, L.P., general partner of Third Rock Ventures II, L.P.</a>	<a href="#">02/09/2017</a>
<a href="#">/s/ Kevin Gillis, Chief Financial Officer of TRV GP II, LLC, general partner of Third Rock Ventures GP II, L.P.</a>	<a href="#">02/09/2017</a>
<a href="#">/s/ Kevin Gillis, Chief Financial Officer of TRV GP II, LLC</a>	<a href="#">02/09/2017</a>
<a href="#">/s/ Kevin Gillis by power of attorney for Mark Levin</a>	<a href="#">02/09/2017</a>

/s/ Kevin Gillis by power of attorney for Kevin Starr      02/09/2017

/s/ Kevin Gillis by power of attorney for Dr. Robert Tepper      02/09/2017

\*\* 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.**