

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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

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

☐ Check this box to indicate that a transaction was made pursuant to a contract, instruction or written plan for the purchase or sale of equity securities of the issuer that is intended to satisfy the affirmative defense conditions of Rule 10b5-1(c). See Instruction 10.

1. Name and Address of Reporting Person* <u>McCain Tracey L</u> (Last) (First) (Middle) <u>C/O BLUEPRINT MEDICINES CORPORATION</u> <u>45 SIDNEY STREET</u> (Street) <u>CAMBRIDGE MA 02139</u> (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>Blueprint Medicines Corp [BPMC]</u> 3. Date of Earliest Transaction (Month/Day/Year) <u>07/17/2025</u> 4. If Amendment, Date of Original Filed (Month/Day/Year)	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner ☒ Officer (give title below) Other (specify below) <u>EVP & Chief Legal Officer</u> 6. Individual or Joint/Group Filing (Check Applicable Line) ☒ Form filed by One Reporting Person Form filed by More than One Reporting Person
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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	07/17/2025		A ⁽¹⁾⁽²⁾		21,353	A	(3)	88,195 ⁽⁴⁾	D	
Common Stock	07/17/2025		D ⁽¹⁾⁽²⁾		51,103	D	(3)(5)	37,092	D	
Common Stock	07/17/2025		U ⁽¹⁾⁽²⁾		37,092	D	(6)	0	D	

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				
Stock Option (Right to Buy)	\$28.36	07/17/2025		D ⁽¹⁾⁽²⁾			55,000	(7)	(7)	Common Stock	55,000	(7)	0	D	
Stock Option (Right to Buy)	\$36.05	07/17/2025		D ⁽¹⁾⁽²⁾			5,000	(7)	(7)	Common Stock	5,000	(7)	0	D	
Stock Option (Right to Buy)	\$81.44	07/17/2025		D ⁽¹⁾⁽²⁾			39,000	(7)	(7)	Common Stock	39,000	(7)	0	D	
Stock Option (Right to Buy)	\$86.6	07/17/2025		D ⁽¹⁾⁽²⁾			29,900	(7)	(7)	Common Stock	29,900	(7)	0	D	
Stock Option (Right to Buy)	\$54.13	07/17/2025		D ⁽¹⁾⁽²⁾			28,500	(7)	(7)	Common Stock	28,500	(7)	0	D	
Stock Option (Right to Buy)	\$100.13	07/17/2025		D ⁽¹⁾⁽²⁾			26,125	(7)	(7)	Common Stock	26,125	(7)	0	D	
Stock Option (Right to Buy)	\$61.31	07/17/2025		D ⁽¹⁾⁽²⁾			25,000	(7)	(7)	Common Stock	25,000	(7)	0	D	
Stock Option (Right to Buy)	\$43.15	07/17/2025		D ⁽¹⁾⁽²⁾			25,000	(7)	(7)	Common Stock	25,000	(7)	0	D	

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				
Stock Option (Right to Buy)	\$95.12	07/17/2025		D ⁽¹⁾⁽²⁾			25,000	(7)	(7)	Common Stock	25,000	(7)	0	D	
Stock Option (Right to Buy)	\$96.57	07/17/2025		D ⁽¹⁾⁽²⁾			22,000	(7)	(7)	Common Stock	22,000	(7)	0	D	

Explanation of Responses:

1. This Form 4 reports securities transacted pursuant to the Agreement and Plan of Merger (the "Merger Agreement") by and among the Issuer, SANOFI, a French societe anonyme ("Parent"), Aventis Inc., a Pennsylvania corporation and wholly owned subsidiary of Parent ("Aventis"), and Rothko Merger Sub, Inc., a Delaware corporation and wholly owned subsidiary of Aventis ("Purchaser").
2. Pursuant to the Merger Agreement, Purchaser completed a tender offer to acquire all of the issued and outstanding shares of common stock of the Issuer, par value \$0.001 per share (the "Common Stock"), for (i) \$129.00 per share, without interest (the "Cash Offer Price"), plus (ii) one (1) contractual contingent value right per share, representing the right to receive contingent payments in cash, without interest, upon the achievement of certain milestones (each a "CVR" and together with the Cash Offer Price, the "Offer Consideration"). On July 17, 2025 (the "Effective Time"), Purchaser merged with and into the Issuer, with the Issuer surviving as an indirect wholly owned subsidiary of Parent.
3. Represents shares previously granted to the Reporting Person subject to performance-based vesting conditions ("PSUs"), for which the performance conditions associated with such PSUs had not yet occurred. As of the Effective Time, each PSU was deemed earned based on the greater of target and actual performance as of the Effective Time. Pursuant to the terms of the Merger Agreement, at the Effective Time, each PSU was cancelled and automatically converted into the right to receive the Offer Consideration, except that fifty percent of such PSUs that were issued in calendar year 2025 were converted into cash-based awards subject to continued vesting as described in the Merger Agreement based on the Cash Offer Price, plus one CVR for each share underlying such portion of the award.
4. Includes 259 shares that were previously acquired under the Issuer's employee stock purchase plan.
5. Pursuant to the terms of the Merger Agreement, at the Effective Time, each outstanding restricted stock unit ("RSU"), whether vested or unvested, was cancelled and automatically converted into the right to receive the Offer Consideration, except that fifty percent of such RSUs that were issued in calendar year 2025 were converted into cash-based awards subject to continued vesting as described in the Merger Agreement based on the Cash Offer Price, plus one CVR for each share underlying such portion of the award.
6. Pursuant to the terms of the Merger Agreement, at the Effective Time, each share of Common Stock held by the Reporting Person was tendered in exchange for the Offer Consideration.
7. Pursuant to the terms of the Merger Agreement, at the Effective Time, each stock option that was outstanding, whether vested or unvested, immediately prior to the Effective Time became fully vested and was cancelled and converted into the right to receive for each share subject to such stock option (i) the Cash Offer Price (less the applicable exercise price per share subject to such option) and (ii) one (1) CVR (in each case, without interest and less applicable tax withholdings), except that fifty percent of such options that were issued in calendar year 2025 were converted into cash-based awards subject to continued vesting as described in the Merger Agreement based on the Cash Offer Price (less the applicable exercise price per share subject to such option), plus one CVR for each share underlying such portion of the option.

/s/ Melissa Masse, Attorney-in-Fact 07/21/2025

** 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.