FORM 4

## UNITED STATES SECURITIES AND EXCHANGE COMMISSION

| Washington, | D.C. 20549 |
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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

## STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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

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

| Name and Address of Reporting Person*     Hurley Ariel                       |  |       |        |          |                 | 2. Issuer Name and Ticker or Trading Symbol Blueprint Medicines Corp [ BPMC ] |  |  |  |     |             |  |                       | (Chec                       | k all app<br>Direc | ,  | ng Pei  | 10% O  |  |
|--|--|-------|--------|----------|-----------------|---|--|--|--|-----|-------------|--|-----------------------|-----------------------------|--------------------|--|---|--|--|
| (Last) (First) (Middle) C/O BLUEPRINT MEDICINES CORPORATION 45 SIDNEY STREET |  |       |        |          |                 | 3. Date of Earliest Transaction (Month/Day/Year) 03/09/2020                   |  |  |  |     |             |  |                       | X                           | belov              |  |   | below)   |  |
| (Street) CAMBRIDGE MA 02139 (City) (State) (Zip)                             |  |       |        |          |                 | 4. If Amendment, Date of Original Filed (Month/Day/Year)                      |  |  |  |     |             |  | 6. Indi<br>Line)<br>X | ·                           |                    |  |   |  |  |
|  |  | Table | I - No | n-Deriva | tive S          | Secu  | rities   | Acq  | uired,   | Dis | posed of    | , or E   | Benef                 | icially                     | y Own              | ed   |   |  |  |
| 1. Title of Security (Instr. 3)  2. Transact Date (Month/Day                 |  |       |        |          | Execution Date, |   | 3. Transaction Code (Instr. 8)  4. Securitie Disposed Code (5) |  |  |     |             | and Securit  |                       | ties<br>cially<br>Following | Form<br>(D) o      | wnership<br>n: Direct<br>or Indirect<br>nstr. 4)   | 7. Nature<br>of Indirect<br>Beneficial<br>Ownership<br>(Instr. 4) |  |  |
|  |  |       |        |          |                 |   |  |  | Code   | v   | Amount      | Amount (A) or (D)  |                       | ce                          | Transa             | Transaction(s)<br>(Instr. 3 and 4)   |   |  | (111341. 4)  |
| Common Stock 03/09/2   |  |       |        |          | .020            |   |  | S <sup>(1)</sup>   |  | 253 | D           | \$5  | 51.94                 | 9                           | ,984               |  | D   |  |  |
|  | Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities) |       |        |          |                 |   |  |  |  |     |             |  |                       |                             |                    |  |   |  |  |
| 1. Title of<br>Derivative<br>Security<br>(Instr. 3)                          | 2.<br>Conversion<br>or Exercise<br>Price of<br>Derivative<br>Security  |       |        |          | Code (<br>8)    | Transaction<br>Code (Instr.<br>8)   |  | vative<br>irities<br>ired<br>r<br>osed<br>)<br>r. 3, 4<br>5) | 6. Date Exerc<br>Expiration Da<br>(Month/Day/Y |     | tte<br>ear) | Amount of Securities Underlying Derivative Security (In 3 and 4)  Amo or Num |                       | nt<br>er                    |                    | 9. Number of<br>derivative<br>Securities<br>Beneficially<br>Owned<br>Following<br>Reported<br>Transaction(s)<br>(Instr. 4) |   | 10.<br>Ownership<br>Form:<br>Direct (D)<br>or Indirect<br>(I) (Instr. 4) | 11. Nature<br>of Indirect<br>Beneficial<br>Ownership<br>(Instr. 4) |

## **Explanation of Responses:**

1. The sale reported on this Form 4 represents shares required to be sold by the Reporting Person to cover tax withholding obligations in connection with the vesting of restricted stock units. The sale occurred automatically to satisfy the tax withholding obligations to be funded by a "sell to cover" transaction and does not represent a discretionary trade by the Reporting Person.

/s/ Christopher Frankenfield,

Attorney-in-Fact

Date

03/11/2020

\*\* Signature of Reporting Person

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.