

☐ 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.

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

|                                              |           |
|----------------------------------------------|-----------|
| OMB APPROVAL                                 |           |
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|                                                                                                                                                                                                                                                                          |                                                                                           |                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Name and Address of Reporting Person*<br><u>Mehta Vimal</u><br><br>(Last) (First) (Middle)<br><u>C/O BIOXCEL THERAPEUTICS, INC.</u><br><u>555 LONG WHARF DRIVE, 12TH FLOOR</u><br><br>(Street)<br><u>NEW HAVEN</u> <u>CT</u> <u>06511</u><br><br>(City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol<br><u>BioXcel Therapeutics, Inc. [ BTAI ]</u> | 5. Relationship of Reporting Person(s) to Issuer<br>(Check all applicable)<br><input checked="" type="checkbox"/> Director 10% Owner<br><input checked="" type="checkbox"/> Officer (give title below) Other (specify below)<br><u>CEO and President</u> |
|                                                                                                                                                                                                                                                                          | 3. Date of Earliest Transaction (Month/Day/Year)<br><u>06/14/2025</u>                     |                                                                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                                          | 4. If Amendment, Date of Original Filed (Month/Day/Year)                                  | 6. Individual or Joint/Group Filing (Check Applicable Line)<br><input checked="" type="checkbox"/> Form filed by One Reporting Person<br>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                    | 06/14/2025                           |                                                    | M                              |   | 163                                                               | A          | (1)   | 4,267                                                                                         | D                                                        |                                                       |
| Common Stock                    | 06/15/2025                           |                                                    | M                              |   | 219                                                               | A          | (1)   | 4,486                                                                                         | D                                                        |                                                       |
| Common Stock                    |                                      |                                                    |                                |   |                                                                   |            |       | 125                                                                                           | I                                                        | By Spouse                                             |
| Common Stock                    |                                      |                                                    |                                |   |                                                                   |            |       | 480,343                                                                                       | I                                                        | By BioXcel LLC <sup>(2)</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) |   | 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 |                                            |                                                                                                    |                                                           |                                                        |
| Restricted Stock Units                     | (1)                                                    | 06/14/2025                           |                                                    | M                              |   |                                                                                        | 163 | (3)                                                      | (3)             | Common Stock                                                                      | 163                        | \$0                                        | 979                                                                                                | D                                                         |                                                        |
| Restricted Stock Units                     | (1)                                                    | 06/15/2025                           |                                                    | M                              |   |                                                                                        | 219 | (4)                                                      | (4)             | Common Stock                                                                      | 219                        | \$0                                        | 2,189                                                                                              | D                                                         |                                                        |

Explanation of Responses:

1. Each Restricted Stock Unit ("RSU") represents a contingent right to receive one share of the Issuer's Common Stock.
2. These securities are held of record by BioXcel LLC. BioXcel LLC is a subsidiary of BioXcel Holdings, Inc. ("Parent"). The Reporting Person is an executive officer and the sole member of the board of directors of Parent and an executive officer and one of two managers on the board of managers of BioXcel LLC and Parent. By virtue of these relationships, the Reporting Person may be deemed to be the beneficial owner of the securities held of record by BioXcel LLC. The Reporting Person disclaims beneficial ownership of the securities reported herein except to the extent of his pecuniary interest therein. This report shall not be deemed an admission that the Reporting Person is the beneficial owner of such securities for the purpose of Section 16 or for any other purpose.
3. On March 14, 2022, the Reporting Person was granted 2,609 RSUs, vesting as to 25% of the total number of RSUs on the first anniversary of March 14, 2022 and as to 6.25% of the total number of RSUs at the end of each successive three-month period thereafter, subject to the Reporting Person's continuous employment with the Issuer through the relevant vesting dates.
4. On March 15, 2023, the Reporting Person was granted 3,500 RSUs, vesting as to 25% of the total number of RSUs on the first anniversary of March 15, 2023 and as to 6.25% of the total number of RSUs at the end of each successive three-month period thereafter, subject to the Reporting Person's continuous employment with the Issuer through the relevant vesting dates.

/s/ Richard Steinhart, Attorney-in-Fact for Vimal Mehta, Ph.D. 06/16/2025

\*\* 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.