

FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

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).

(Print or Type Responses)

| | | | | | |
|---|--|---|--|---|--|
| 1. Name and Address of Reporting Person* Hoover Thomas | | 2. Issuer Name and Ticker or Trading Symbol Matinas BioPharma Holdings, Inc. [MTNB] | | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director _____ 10% Owner _____ <input checked="" type="checkbox"/> Officer (give title below) _____ Other (specify below) _____ Chief Business Officer | |
| (Last) (First) (Middle) C/O MATINAS BIOPHARMA HOLDINGS, INC., 1545 ROUTE 206, SUITE 302 | | 3. Date of Earliest Transaction (Month/Day/Year) 12/14/2021 | | | |
| (Street) BEDMINSTER, NJ 07921 | | 4. If Amendment, Date 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 | |
| (City) (State) (Zip) | | 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) | | | |

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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 control number. SEC 1474 (9-02)

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 Underlying Securities (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 of Derivative Security: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |
|--|--|--------------------------------------|--|--------------------------------|---|---|--|------------|---|-----------------|--|--|--|--|
| | | | | Code | V | | (A) | (D) | Date Exercisable | Expiration Date | | | | |
| Stock Option (right to Buy) | \$ 0.92 | 12/14/2021 | | A | | 850,000 | (1) | 12/13/2031 | Common Stock | 850,000 | \$ 0 | 850,000 | D | |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|--|---------------|-----------|------------------------|-------|
| | Director | 10% Owner | Officer | Other |
| Hoover Thomas C/O MATINAS BIOPHARMA HOLDINGS, INC. 1545 ROUTE 206, SUITE 302 BEDMINSTER, NJ 07921 | | | Chief Business Officer | |

Signatures

| | |
|---|------------|
| /s/ Keith A. Kucinski, Attorney-in-Fact | 12/15/2021 |
| **Signature of Reporting Person | Date |

Explanation of Responses:

- * 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).
- (1) The option award was made in accordance with the terms of the Issuer's Amended and Restated 2013 Equity Incentive Plan. The option vests as to 25% of the shares on December 14, 2022 with the remaining shares to vest in equal monthly installments on the last day of each month over a period of 36 months commencing December 31, 2022.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

