FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

| | OMB APPR | ROVAL | | | | | | |
|--------------------------|---------------------|-----------|--|--|--|--|--|--|
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| Estimated average burden | | | | | | | | |
| Ш | hours ner 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* Colonno Richard James | | | | | | 2. Issuer Name and Ticker or Trading Symbol ASSEMBLY BIOSCIENCES, INC. [ASMB] | | | | | | | | | eck all applic Directo | able) | | | ner | |
|---|---|--|---|--------|------------------------------|---|--|-----------|---|-------------------------|-------------------|--|--------|--|---|---|--------------------------------------|--|---------------------------------------|--|
| | SEMBLY B | IOSCIENCES, 1 | | | | Date 6 | | Transa | action (Mor | nth/E | Day/Year) | | below) | See Re | emar | below) ks | | | | |
| 11711 N. MERIDIAN STREET, SUITE 310 (Street) CARMEL IN 46032 | | | | | 4.1 | 4. If Amendment, Date of Original Filed (Month/Day/Year) | | | | | | | | | 6. Individual or Joint/Group Filing (Check Applicable Line) X Form filed by One Reporting Person Form filed by More than One Reporting Person | | | | | |
| (City) | (S | tate) | (Zip) | | | | | | | | | | | | | | | | | |
| | | Tab | le I - Nor | n-Deri | vativ | e Se | curities | s Acc | quired, D | Disp | osed o | f, or E | Bene | ficiall | y Owned | | | | | |
| 1. Title of Security (Instr. 3) 2. Transa Date (Month/D | | | | | Execution Da | | Date, | Code (Ins | | | | | | 5. Amou Securitie Beneficia Owned F Reported | es For ally (D) Following (I) (| | m: Direct or Indirect nstr. 4) | 7. Nature of Indirect Beneficial Ownership | | |
| | | | | | | | | Code | v | Amount | (A (D |) or) | Price | Transact (Instr. 3 | ion(s) | | | (Instr. 4) | | |
| Common Stock 03/29/ | | | | 29/201 | /2018 | | A | | 15,000 | 15,000 ⁽¹⁾ A | | \$0 | 40, | 40,000 | | D | | | | |
| | | - | Гable II - | | | | | | ired, Di | | | | | | Owned | | | | | |
| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution I if any (Month/Day | Date, | 4. Transa Code (8) | | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | | 6. Date Exe Expiration I (Month/Day | Date | | e and 7. Title and Am of Securities Underlying Derivative Sec (Instr. 3 and 4) | | ecurity | 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) | Beneficial Ownership (Instr. 4) | |
| | | | | | Code | v | (A) | | Date Exercisable | | xpiration vate | | | | | | | | | |
| Stock Option (right to | \$49.14 | 03/29/2018 | | | A | | 30,000 | | (2) | 0 | 3/29/2028 | Commo | | 0,000 | \$0 | 30,000 |) | D | | |

Explanation of Responses:

- 1. Grant of restricted stock units. The restricted stock units vest in four equal installments, assuming continuous service on each vesting date, as follows: March 29, 2019; March 29, 2020; March 29, 2021; and
- 2. Grant of stock options. The stock options vest over four years, assuming continuous service on each vesting date, as follows: 25% shall vest on the first anniversary of the date of grant, March 29, 2019; and the remaining 75% shall vest in 36 equal monthly installments, with the options becoming fully vested on March 29, 2022.

EVP & Chief Scientific Officer of Virology Operations; Exhibit List: Exhibit 24.1 - Power of Attorney

/s/ Elizabeth H. Lacy, as 03/30/2018 Attorney-in-Fact

** 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.

LIMITED POWER OF ATTORNEY

The undersigned hereby constitutes and appoints each of Derek A. Small, Graham Cooper, Elizabeth H. Lacy and John O. Gunderson, signing singly, and with full power of substitution, the undersigned's true and lawful attorney-in-fact to:

- (1) execute for and on behalf of the undersigned, in the undersigned's capacity as officer and/or director of Assembly Biosciences, Inc. (the "Company"), from time to time the following U.S. Securities and Exchange Commission ("SEC") forms: (i) Form ID, including any attached documents, to effect the assignment of codes to the undersigned to be used in the transmission of information to the SEC using the EDGAR System; (ii) Form 3, Initial Statement of Beneficial Ownership of Securities, including any attached documents; (iii) Form 4, Statement of Changes in Beneficial Ownership of Securities, including any attached documents; (iv) Form 5, Annual Statement of Beneficial Ownership of Securities in accordance with Section 16(a) of the Securities Exchange Act of 1934, as amended, and the rules thereunder, including any attached documents; (v) Schedule 13D and (vi) amendments of each thereof, in accordance with the Securities Exchange Act of 1934, as amended, and the rules thereunder, including any attached documents;
- (2) do and perform any and all acts for and on behalf of the undersigned which may be necessary or desirable to complete and execute any such Form 3, 4 or 5, Schedule 13D or any amendment(s) thereto, and timely file such form(s) with the SEC and any securities exchange, national association or similar authority; and
- (3) take any other action of any type whatsoever in connection with the foregoing which, in the opinion of such attorney-in-fact, may be of benefit to, in the best interest of, or legally required by, the undersigned, it being understood that the documents executed by such attorney-in-fact on behalf of the undersigned pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in such attorney-in-fact's discretion.

The undersigned hereby grants to each such attorney-in-fact, acting singly, full power and authority to do and perform any and every act and thing whatsoever requisite, necessary or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted. The undersigned acknowledges that the foregoing attorneys-in-fact, in serving in such capacity at the request of the undersigned, are not assuming, nor is the Company assuming, any of the undersigned's responsibilities to comply with Section 16 or Regulation 13D-G of the Securities Exchange Act of 1934, as amended. The undersigned hereby agrees to indemnify the attorneys-in-fact and the Company from and against any demand, damage, loss, cost or expense arising from any false or misleading information provided by the undersigned to the attorneys-in-fact.

This Power of Attorney shall remain in full force and effect until the undersigned is no longer required to file such forms with respect to the undersigned's holdings of and transactions in securities issued by the Company, unless earlier revoked by the undersigned in a signed writing delivered to the foregoing attorneys-in-fact. This Power of Attorney supersedes any prior power of attorney in connection with the undersigned's capacity as an officer and/or director of the Company. This Power of Attorney shall expire as to any individual attorney-in-fact if such attorney-in-fact ceases to be an executive officer of, or legal counsel to, the Company.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed as of March 30, 2018.

/s/ Richard J. Colonno Richard J. Colonno