

**FORM 5**

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

| OMB APPROVAL                                 |           |
|--|-----------|
| OMB Number:                                  | 3235-0362 |
| Estimated average burden hours per response: | 1.0       |

**ANNUAL STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**

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

Form 3 Holdings Reported.

Form 4 Transactions Reported.

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

|  |  |   |
|--|--|---|
| 1. Name and Address of Reporting Person*<br><u>Epstein David R</u><br><br>(Last) (First) (Middle)<br>C/O RUBIUS THERAPEUTICS, INC.<br>399 BINNEY STREET, SUITE 300<br><br>(Street)<br>CAMBRIDGE MA 02139<br><br>(City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol<br><u>Rubius Therapeutics, Inc. [ RUBY ]</u> | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable)<br><input checked="" type="checkbox"/> Director 10% Owner<br>Officer (give title below) Other (specify below) |
|  | 3. Statement for Issuer's Fiscal Year Ended (Month/Day/Year)<br>12/31/2018               |   |
|  | 4. If Amendment, Date of Original Filed (Month/Day/Year)                                 |   |

**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 at end of Issuer's Fiscal Year (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|------------|-------|--|--|---|
|                                 |                                      |  |                                | Amount  | (A) or (D) | Price |  |  |   |
| Common Stock                    | 11/28/2018                           |  | G <sup>(1)</sup>               | 180,000   | D          | \$0   | 4,800,453  | D  |   |
| Common Stock                    | 11/28/2018                           |  | G <sup>(1)</sup>               | 180,000   | A          | \$0   | 180,000  | I  | By Three Opinions Foundation Inc.                     |

**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) |
|--|--|--------------------------------------|--|--------------------------------|--|-----|--|-----------------|---|--|--|---|--|
|  |  |                                      |  |                                | (A)  | (D) | Date Exercisable   | Expiration Date |   |  |  |   |  |

**Explanation of Responses:**

1. This transaction involved a gift of securities by the reporting person to Three Opinions Foundation Inc. (the "Foundation"), of which the reporting person's wife is the President and a Director. The reporting person disclaims beneficial ownership of the shares held by the Foundation, and this report should not be deemed an admission that the reporting person is the beneficial owner of the Foundation's shares for purposes of Section 16 or for any other purpose.

/s/ Joanne M. Protano, as 02/14/2019  
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.