

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

| OMB APPROVAL | |
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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* <u>Florence Anthony A. Jr.</u> (Last) (First) (Middle) 5425 WISCONSIN AVENUE SUITE 800 (Street) CHEVY MD 20815 CHASE (City) (State) (Zip) | 2. Date of Event Requiring Statement (Month/Day/Year) 09/30/2015 | 3. Issuer Name and Ticker or Trading Symbol <u>Mirna Therapeutics, Inc. [MIRN]</u> | |
| | | 4. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) Other (specify below) | 5. If Amendment, Date of Original Filed (Month/Day/Year) 6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person |

Table I - Non-Derivative Securities Beneficially Owned

| 1. Title of Security (Instr. 4) | 2. Amount of Securities Beneficially Owned (Instr. 4) | 3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5) | 4. Nature of Indirect Beneficial Ownership (Instr. 5) |
|---------------------------------|---|--|---|
|---------------------------------|---|--|---|

Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative Security (Instr. 4) | 2. Date Exercisable and Expiration Date (Month/Day/Year) | | 3. Title and Amount of Securities Underlying Derivative Security (Instr. 4) | | 4. Conversion or Exercise Price of Derivative Security | 5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5) | 6. Nature of Indirect Beneficial Ownership (Instr. 5) |
|--|--|-----------------|---|----------------------------|--|--|---|
| | Date Exercisable | Expiration Date | Title | Amount or Number of Shares | | | |
| Series C Preferred Stock ⁽¹⁾ | (2) | (3) | Common Stock | 1,241,649 | 0.00 | I | See Note 4 ⁽⁴⁾ |
| Series D Preferred Stock ⁽⁵⁾ | (2) | (3) | Common Stock | 583,559 | 0.00 | I | See Note 4 ⁽⁴⁾ |

Explanation of Responses:

- Each share of Series C Preferred Stock will automatically convert on a one-to-one basis into Common Stock immediately prior to the consummation of the Issuer's initial public offering.
- The securities are immediately convertible.
- The expiration date is not relevant to the conversion of these securities.
- The Reporting Person is a director of NEA 14 GP, LTD, which is the sole general partner of NEA Partners 14, L.P. ("NEA Partners 14"). NEA Partners 14 is the sole general partner of New Enterprise Associates 14, L.P. ("NEA 14"), which is the direct beneficial owner of the securities. The Reporting Person disclaims beneficial ownership, within the meaning of Section 16 of the Securities Exchange Act of 1934, as amended, or otherwise of such portion of the NEA 14 shares in which the Reporting Person has no pecuniary interest.
- Each share of Series D Preferred Stock will automatically convert on a one-to-one basis into Common Stock immediately prior to the consummation of the Issuer's initial public offering.

Remarks:

/s/ Sasha Keough, attorney-in-fact 09/30/2015

** 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 5 (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.