

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

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

| | | |
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| <p>1. Name and Address of Reporting Person*</p> <p><u>BASKETT FOREST</u></p> <hr/> <p>(Last) (First) (Middle)</p> <p>1954 GREENSPRING DRIVE</p> <p>SUITE 600</p> <hr/> <p>(Street)</p> <p>TIMONIUM MD 21093</p> <hr/> <p>(City) (State) (Zip)</p> | <p>2. Issuer Name and Ticker or Trading Symbol</p> <p><u>Mirna Therapeutics, Inc. [MIRN]</u></p> <hr/> <p>3. Date of Earliest Transaction (Month/Day/Year)</p> <p>10/05/2015</p> <hr/> <p>4. If Amendment, Date of Original Filed (Month/Day/Year)</p> | <p>5. Relationship of Reporting Person(s) to Issuer (Check all applicable)</p> <p>Director <input checked="" type="checkbox"/> 10% Owner</p> <p>Officer (give title below) <input type="checkbox"/> Other (specify below)</p> <hr/> <p>6. Individual or Joint/Group Filing (Check Applicable Line)</p> <p><input checked="" type="checkbox"/> Form filed by One Reporting Person</p> <p><input type="checkbox"/> Form filed by More than One Reporting Person</p> |
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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 | 10/05/2015 | | C | | 1,241,650 | A | (1) | 1,241,650 | I | See Note 2(2) |
| Common Stock | 10/06/2015 | | J(3) | | 257,516 | A | \$0.00(3) | 1,499,166 | I | See Note 2(2) |
| Common Stock | 10/05/2015 | | C | | 583,559 | A | (4) | 2,082,725 | I | See Note 2(2) |
| Common Stock | 10/06/2015 | | J(5) | | 31,650 | A | \$0.00(5) | 2,114,375 | I | See Note 2(2) |
| Common Stock | 10/06/2015 | | P | | 857,142 | A | \$7 | 2,971,517 | I | See Note 2(2) |

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 | | | | |
| Series C Preferred Stock | (1) | 10/05/2015 | | C | | 1,241,650(6) | | (1) | (7) | Common Stock | 1,241,650(6) | (1) | 0 | I | See Note 2(2) |
| Series D Preferred Stock | (4) | 10/05/2015 | | C | | 583,559 | | (4) | (7) | Common Stock | 583,559 | (3) | 0 | I | See Note 2(2) |

Explanation of Responses:

- Each share of Series C Preferred Stock automatically converted on a one-to-one basis into Common Stock upon the consummation of the Issuer's initial public offering.
- 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.
- The shares were issued for no additional consideration pursuant to an accruing paid-in-kind dividend on shares of Series C Preferred Stock of the Company.
- Each share of Series D Preferred Stock automatically converted on a one-to-one basis into Common Stock upon the consummation of the Issuer's initial public offering.
- The shares were issued for no additional consideration pursuant to an accruing paid-in-kind dividend on shares of Series D Preferred Stock of the Company.
- Due to a clerical error, the Reporting Person's Form 3 which previously reported the holding of these shares understated his total by one (1) share.
- The expiration date is not relevant to the conversion of these securities.

Remarks:

/s/ Sasha Keough, attorney-in-fact 10/06/2015

** 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 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.