FORM 4

Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Check this box if no longer subject to

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

| STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP | STATEMENT | OF CHANGES | IN BENEFICIAL | OWNERSHIP |
|--|-----------|-------------------|---------------|------------------|
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Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934

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| | | | of Section 30(1) of the investment Company Act of 1940 | | | | | |
|---|--|----------------------|---|---|--|--|--|--|
| 1. Name and Address of Reporting Person* Barbosa Miguel (Last) (First) (Middle) C/O MIRNA THERAPEUTICS, INC. 2150 WOODWARD ST., SUITE 100 (Street) AUSTIN TX 78744 (City) (State) (Zip) | | (Middle) CS, INC. | 2. Issuer Name and Ticker or Trading Symbol <u>Mirna Therapeutics, Inc.</u> [MIRN] 3. Date of Earliest Transaction (Month/Day/Year) 09/30/2015 | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner X Officer (give title Other (specify below) below) Chief Scientific Officer | | | | |
| | | 78744 | 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 | | | | |
| | | Table I - Non-D | Derivative Securities Acquired, Disposed of, or Bend | eficially Owned | | | | |

| 1. Title of Security (Instr. 3) | | 3. Transa Code (8) | ction | Disposed Of (D) (Instr. 3, 4 and 5) | | | 5. Amount of Securities Beneficially Owned Following | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership |
|---------------------------------|--|------------------------------|-------|-------------------------------------|---------------|-------|--|---|---|
| | | Code | v | Amount | (A) or (D) | Price | Reported Transaction(s) (Instr. 3 and 4) | | (Instr. 4) |

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

| | | | (0.9 | , p | , | , | | , optiono, | ••••• | | | | | | |
|---|---|--|---|------------------------------|---|--|--------------------------------|--|--------------------|--|-------------------------------------|---|--|--|--|
| 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. Transa Code (8) | | 5. Number Derivativ Securitie Acquired or Dispos of (D) (In 3, 4 and 5 | e s I (A) sed str. | 6. Date Exerc Expiration Da (Month/Day/Y | te | 7. Title an of Securit Underlyin Derivative (Instr. 3 an | ies g Security | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) | 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 | | (Instr. 4) | | |
| Stock Option (Right to Buy) | \$7 | 09/30/2015 | | A | | 284,206 | | (1) | 09/30/2025 | Common Stock | 284,206 | \$0.00 | 284,206 | D | |

Explanation of Responses:

1. The option vests with respect to 25% of the shares subject thereto on September 28, 2016, with the remaining shares vesting with respect to 1/48 of the total shares subject thereto on each monthly anniversary thereafter, subject to the Reporting Person continuing to provide services to the Issuer through each such vesting date.

Remarks:

/s/ Jon Irvin, Attorney-in-Fact for Miguel Barbosa

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 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.