

**FORM 4****UNITED STATES SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**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).

**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

|   |  |  |   |  |  |  |
|---|--|--|---|--|--|--|
| 1. Name and Address of Reporting Person*<br><u>WILSON ROBERT N</u><br><br>(Last) (First) (Middle)<br><u>C/O SYNTA PHARMACEUTICALS CORP.</u><br><u>45 HARTWELL AVENUE</u><br><br>(Street)<br><u>LEXINGTON MA 02421</u><br><br>(City) (State) (Zip) |  |  | 2. Issuer Name and Ticker or Trading Symbol<br><u>SYNTA PHARMACEUTICALS CORP [</u><br><u>SNTA ]</u> |  | 5. Relationship of Reporting Person(s) to Issuer<br>(Check all applicable)<br><input checked="" type="checkbox"/> Director 10% Owner<br>Officer (give title below) Other (specify below) |  |
|   |  |  | 3. Date of Earliest Transaction (Month/Day/Year)<br><u>07/01/2009</u>                               |  |  |  |
|   |  |  | 4. If Amendment, Date of Original Filed (Month/Day/Year)  |  | 6. Individual or Joint/Group Filing (Check Applicable Line)<br><input checked="" type="checkbox"/> Form filed by One Reporting Person<br>Form filed by More than One Reporting Person    |  |

**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                    | 07/01/2009                           |  | A                              |   | 8,403 <sup>(1)</sup>  | A          | \$0 <sup>(1)</sup> | 364,677   | D  |   |

**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) |
|--|--|--------------------------------------|--|--------------------------------|--|--|-----------------|---|--|--|---|--|
|  |  |                                      |  |                                |  | Date Exercisable   | Expiration Date |   |  |  |   |  |
| Director Stock Option (Right to Buy)       | \$2.38   | 07/01/2009                           |  | A                              | 5,500  | (2)  | 07/01/2019      | Common Stock  | 5,500                                      | \$0  | 5,500   | D  |

**Explanation of Responses:**

1. Represents a restricted stock grant subject to the Issuer's lapsing forfeiture right, which lapses as to 25% of the shares on each of September 30, 2009, December 31, 2009, March 31, 2010 and June 30, 2010, provided the Reporting Person continues to serve as a director of the Issuer on such date.
2. The option vests as to 25% of the shares on each of September 30, 2009, December 31, 2009, March 31, 2010 and June 30, 2010, provided the Reporting Person continues to serve as a director of the Issuer on such date.

/s/ Ann Margaret Eames,  
Attorney-in-Fact

07/06/2009

\*\* 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.

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