

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

Washington, D.C. 20549

OMB APPROVAL

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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* <u>WILSON ROBERT N</u> (Last) (First) (Middle) <u>C/O SYNTA PHARMACEUTICALS CORP.</u> <u>45 HARTWELL AVENUE</u> (Street) <u>LEXINGTON MA 02421</u> (City) (State) (Zip) | | | 2. Issuer Name and Ticker or Trading Symbol <u>SYNTA PHARMACEUTICALS CORP [</u> <u>SNTA]</u> 3. Date of Earliest Transaction (Month/Day/Year) <u>07/01/2010</u> 4. If Amendment, Date of Original Filed (Month/Day/Year) | | | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner Officer (give title below) Other (specify below) | | |
| | | | 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 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 | 07/01/2010 | | A | | 7,722 ⁽¹⁾ | A | \$0 ⁽¹⁾ | 472,399 | 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) | \$2.59 | 07/01/2010 | | A | 5,500 | (2) | 07/01/2020 | 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, 2010, December 31, 2010, March 31, 2011 and June 30, 2011, 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, 2010, December 31, 2010, March 31, 2011 and June 30, 2011, provided the Reporting Person continues to serve as a director of the Issuer on such date.

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

07/06/2010

** 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.