

**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>Vukovic Vojo</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>03/01/2011</u>  4. If Amendment, Date of Original Filed (Month/Day/Year)			5. Relationship of Reporting Person(s) to Issuer (Check all applicable)  Director 10% Owner X Officer (give title below) Other (specify below) <u>SVP, Chief Medical Officer</u>  6. Individual or Joint/Group Filing (Check Applicable Line) X Form filed by One Reporting Person Form filed by More than One Reporting Person		
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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	03/01/2011		S <sup>(1)</sup>		2,617	D	\$5.322 <sup>(2)</sup>	15,004	D	
Common Stock	03/01/2011		A		7,300 <sup>(3)</sup>	A	\$0 <sup>(3)</sup>	22,304	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)
					Code	V	Date Exercisable	Expiration Date					
Employee Stock Option (Right to Buy)	\$5.26	03/01/2011		A		100,000	(4)	03/01/2021	Common Stock 100,000	\$0	100,000	D	

**Explanation of Responses:**

- The sales reported in this Form 4 were effected pursuant to a Rule 10b5-1 trading plan adopted by the Reporting Person on December 16, 2010, and were made to fund certain out-of-pocket tax withholding liabilities associated with the vesting of restricted stock granted on March 1, 2010.
- The shares were sold in multiple transactions at prices ranging from \$5.28 to \$5.40 per share. The price reported above is the weighted average sale price. The Reporting Person hereby undertakes to provide upon request to the staff of the SEC, the Issuer or a security holder of the Issuer, full information regarding the number of shares sold at each separate price within the range set forth in this footnote.
- Represents a restricted stock grant subject to the Issuer's lapsing forfeiture right, which lapses as to 100% of the shares on March 1, 2012, provided the Reporting Person remains employed by the Issuer on such date.
- The option vests as to 25% of the shares on March 1, 2012 and as to an additional 6.25% of the shares on the last day of each successive three-month period thereafter.

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

03/03/2011

\*\* 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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