

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* <b>HENDERSON JOHN T</b>			2. Issuer Name and Ticker or Trading Symbol <b>CYTKINETICS INC [ CYTK ]</b>			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)		
(Last)	(First)	(Middle)	3. Date of Earliest Transaction (Month/Day/Year) <b>05/20/2010</b>			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		
280 EAST GRAND AVENUE			4. If Amendment, Date of Original Filed (Month/Day/Year)					
(Street) <b>SOUTH SAN FRANCISCO CA 94080</b>								
(City)	(State)	(Zip)						

**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								1,500	D	
Common Stock								500	I	by Spouse

**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
Non-Qualified Stock Option (right to buy)	\$2.81	05/20/2010		A		20,000		06/20/2010 <sup>(1)</sup>	05/20/2020	Common Stock	20,000	\$0	20,000	D	
Non-Qualified Stock Option (right to buy)	\$1.75							05/01/2009 <sup>(2)</sup>	04/01/2019	Common Stock	21,428		21,428	D	
Non-Qualified Stock Option (right to buy)	\$1.85							06/21/2009 <sup>(3)</sup>	05/21/2019	Common Stock	15,000		15,000	D	
Non-Qualified Stock Option (right to buy)	\$1.95							03/19/2009 <sup>(4)</sup>	02/19/2019	Common Stock	30,000		30,000	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	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares				
Non-Qualified Stock Option (right to buy)	\$3.11							02/04/2010 <sup>(5)</sup>	01/04/2020	Common Stock	16,077		16,077	D	

**Explanation of Responses:**

- This option shall vest and become exercisable as to 20,000 shares divided into equal monthly installments such that the option shall be 100% vested on May 20, 2011.
- This option shall vest and become exercisable as to 21,428 shares divided into equal monthly installments such that the option shall be 100% vested on January 1, 2010.
- This option shall vest and become exercisable as to 15,000 shares divided into equal monthly installments such that the option shall be 100% vested on May 21, 2010.
- This option shall vest and become exercisable as to 833 shares on 03/19/09 and the balance of 29,167 divided into equal monthly installments thereafter such that the option shall be 100% vested on 02/19/12.
- This option shall vest and become exercisable as to 16,077 shares divided into equal monthly installments such that the option shall be 100% vested on January 4, 2011.

By: Sharon Barbari For: John T. Henderson    05/21/2010

\*\* 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.**