

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* HENDERSON JOHN T			2. Issuer Name and Ticker or Trading Symbol CYTKINETICS INC [CYTK]			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) 01/04/2010			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 (Street) SOUTH SAN FRANCISCO CA 94080 (City) (State) (Zip)			4. If Amendment, Date of Original Filed (Month/Day/Year)					

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)	\$3.11	01/04/2010		A		16,077		02/04/2010 ⁽¹⁾	01/04/2020	Common Stock	16,077	\$1.244 ⁽²⁾	16,077	D	
Non-Qualified Stock Option (right to buy)	\$1.75							05/01/2009 ⁽³⁾	04/01/2019	Common Stock	21,428		21,428	D	
Non-Qualified Stock Option (right to buy)	\$1.85							06/21/2009 ⁽⁴⁾	05/21/2019	Common Stock	15,000		15,000	D	
Non-Qualified Stock Option (right to buy)	\$1.95							03/19/2009 ⁽⁵⁾	02/19/2019	Common Stock	30,000		30,000	D	

Explanation of Responses:

- 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.
- This option was issued to the reporting person pursuant to the Cytokinetics 2004 Equity Incentive Plan in lieu of annual retainer of \$20,000.

3. 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.
4. 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.
5. 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.

By: Sharon Barbari For: John 01/04/2010
T. Henderson

** 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.