

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934
(Amendment No.)

CYTOKINETICS INC

(Name of Issuer)

COM

(Title of Class of Securities)

23282W100

(CUSIP Number)

December 31, 2009

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)
 Rule 13d-1(c)
 Rule 13d-1(d)

The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be 'filed' for the purpose of Section 18 of the Securities Exchange Act of 1934 ('Act') or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP No. 23282W100

Person 1

1. (a) Names of Reporting Persons.
Wells Fargo and Company
(b) Tax ID
41-0449260
-

2. Check the Appropriate Box if a Member of a Group (See Instructions)
(a)
(b)
-

3. SEC Use Only

4. Citizenship or Place of Organization Delaware

Number of Shares Beneficially Owned by Each Reporting Person With	5. Sole Voting Power 3,361,685
	6. Shared Voting Power 0
	7. Sole Dispositive Power 73,162
	8. Shared Dispositive Power 0

9. Aggregate Amount Beneficially Owned by Each Reporting Person 3,361,685

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9) 5.52 %

12. Type of Reporting Person (See Instructions)

HC

Item 1.

- (a) Name of Issuer
CYTOKINETICS INC
- (b) Address of Issuer's Principal Executive Offices
280 EAST GRAND AVE. S., SAN FRANCISCO, CA 94080

Item 2.

- (a) Name of Person Filing
Wells Fargo and Company
- (b) Address of Principal Business Office or, if none, Residence
420 Montgomery Street, San Francisco, CA 94104
- (c) Citizenship
Delaware
- (d) Title of Class of Securities
COM
- (e) CUSIP Number
23282W100

Item 3. If this statement is filed pursuant to 240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

- (a) Broker or dealer registered under section 15 of the Act (15 U.S.C. 78c)
- (b) Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).

- (c) Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c).
- (d) Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C 80a-8).
- (e) An investment adviser in accordance with 240.13d-1(b)(1)(ii)(E);
- (f) An employee benefit plan or endowment fund in accordance with 240.13d-1(b)(1)(ii)(F);
- (g) A parent holding company or control person in accordance with 240.13d-1(b)(1)(ii)(G);
- (h) A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i) A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);
- (j) Group, in accordance with 240.13d-1(b)(1)(ii)(J).

Item 4. Ownership.

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

- (a) Amount beneficially owned: 3,361,685
- (b) Percent of class: 5.52%
- (c) Number of shares as to which the person has:
 - (i) Sole power to vote or to direct the vote 3,361,685
 - (ii) Shared power to vote or to direct the vote 0
 - (iii) Sole power to dispose or to direct the disposition of 73,162
 - (iv) Shared power to dispose or to direct the disposition of 0

Person 2

- 1. (a) Names of Reporting Persons.
Wells Fargo Bank, N.A.
- (b) Tax ID
94-1347393

- 2. Check the Appropriate Box if a Member of a Group (See Instructions)
 - (a)
 - (b)

3. SEC Use Only

4. Citizenship or Place of Organization United States

Number of Shares Beneficially Owned by Each Reporting Person With

5. Sole Voting Power 3,288,523

6. Shared Voting Power 0

7. Sole Dispositive Power 0

8. Shared Dispositive Power 0

9. Aggregate Amount Beneficially Owned by Each Reporting Person 3,288,523

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9) 5.40 %

12. Type of Reporting Person (See Instructions)

BK

Item 1.

- (a) Name of Issuer
CYTOKINETICS INC
- (b) Address of Issuer's Principal Executive Offices
280 EAST GRAND AVE. S., SAN FRANCISCO, CA 94080

Item 2.

- (a) Name of Person Filing
Wells Fargo Bank, N.A.
- (b) Address of Principal Business Office or, if none, Residence
101 North Phillips Street, Sioux Falls, SD 57104
- (c) Citizenship
United States
- (d) Title of Class of Securities
COM
- (e) CUSIP Number
23282W100

Item 3. If this statement is filed pursuant to 240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

- (a) Broker or dealer registered under section 15 of the Act (15 U.S.C. 78c)
- (b) Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).
]
- (c) Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c).
- (d) Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C 80a-8).

- (e) An investment adviser in accordance with 240.13d-1(b)(1)(ii)(E);
- (f) An employee benefit plan or endowment fund in accordance with 240.13d-1(b)(1)(ii)(F);
- (g) A parent holding company or control person in accordance with 240.13d-1(b)(1)(ii)(G);
- (h) A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i) A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);
- (j) Group, in accordance with 240.13d-1(b)(1)(ii)(J).

Item 4. Ownership.

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

- (a) Amount beneficially owned: 3,288,523
- (b) Percent of class: 5.40%
- (c) Number of shares as to which the person has:
 - (i) Sole power to vote or to direct the vote 3,288,523
 - (ii) Shared power to vote or to direct the vote 0
 - (iii) Sole power to dispose or to direct the disposition of 0
 - (iv) Shared power to dispose or to direct the disposition of 0

Item 5. Ownership of Five Percent or Less of a Class

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following.[].

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Not applicable

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company or Control Person.

See Exhibit B

Item 8. Identification and Classification of Members of the Group

Not applicable.

Item 9. Notice of Dissolution of Group

Not applicable.

Item 10. Certification

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

January 29, 2010

Date

/s/ Jane E. Washington

Signature

Jane E. Washington, VP Trust Operations

Name/Title

Exhibit A

EXPLANATORY NOTE

This Schedule 13G is filed by Wells Fargo & Company on its own behalf and on behalf of any subsidiaries listed in Exhibit B. Aggregate beneficial ownership reported by Wells Fargo & Company under Item 9 on page 2 is on a consolidated basis and includes any beneficial ownership separately reported herein by a subsidiary.

Exhibit B

The Schedule 13G to which this attachment is appended is filed by Wells Fargo & Company on behalf of the following subsidiaries:

Wells Fargo Bank, N.A. (1)

Wells Fargo Advisors, LLC. (2)

(1) Classified as a bank in accordance with Regulation 13d-1(b)(1)(ii)(B).

(2) Classified as a broker dealer in accordance with Regulation 13d-1(b)(1)(ii)(A).

Exhibit C

Wells Fargo & Company (the "Parent Company") may be deemed to beneficially own 3,361,685 (overall WF&Co shares) shares of the common stock, par value \$0.01 ("Common Stock"), of Cytokinetics Inc, consisting of 3,288,523 (WF Bank NA shares) shares of Common Stock that Wells Fargo Bank, N.A. (the "Bank"), a subsidiary of the Parent Company, may be deemed to beneficially own as described below and 73,162 (all shares of non-WF Bank NA) shares of Common Stock that other Parent Company subsidiaries may be deemed to beneficially own (see Exhibit B). Of the 3,288,523 shares of Common Stock that the Bank may be deemed to beneficially own, 3,288,523 (total from the voting trust detail) shares are subject to a Voting Trust Agreement, dated as of September 21, 2006 (the "Agreement"), among Wells Fargo Bank, N.A.(the Bank), and Credit Suisse Securities (USA) LLC and certain of its affiliates.

Exhibit D

AGREEMENT

The undersigned hereby agree that the statement on Schedule 13G to which this Agreement is attached shall be filed by Wells Fargo & Company on its own behalf and on behalf of Wells Fargo Bank, N.A.

Date: January 29, 2010

WELLS FARGO & COMPANY

By: /s/Jane E. Washington, VP Trust Operations

Wells Fargo Bank, N.A.

By: /s/Ken Clews, Accounting Manager, Vice President

**Attention: Intentional misstatements or omissions of fact constitute Federal criminal violations
(See 18 U.S.C. 1001)**