

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

SCHEDULE 13G

**Under the Securities Exchange Act of 1934
(Amendment No. 1)***

Cytokinetics, Incorporated

(Name of Issuer)

Common Stock, \$0.001 par value per share

(Title of Class of Securities)

23282W100

(CUSIP Number)

May 21, 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

1. Names of Reporting Persons.

QVT Financial LP

I.R.S. Identification Nos. of above persons (entities only).

11-3694008

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...0

6. Shared Voting Power...6,185,152

7. Sole Dispositive Power...0

8. Shared Dispositive Power...6,185,152

9. Aggregate Amount Beneficially Owned by Each Reporting Person...6,185,152

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

11. Percent of Class Represented by Amount in Row (9) 9.99%

12. Type of Reporting Person (See Instructions) PN

CUSIP No. 23282W100

1. Names of Reporting Persons.

QVT Financial GP LLC

I.R.S. Identification Nos. of above persons (entities only).

11-3694007

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...0

6. Shared Voting Power... 6,185,152

7. Sole Dispositive Power...0

8. Shared Dispositive Power... 6,185,152

9. Aggregate Amount Beneficially Owned by Each Reporting Person... 6,185,152

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

11. Percent of Class Represented by Amount in Row (9) 9.99%

12. Type of Reporting Person (See Instructions) OO

CUSIP No. 23282W100

1. Names of Reporting Persons.

QVT Fund LP

I.R.S. Identification Nos. of above persons (entities only).

98-0415217

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... Cayman Islands

Number of 5. Sole Voting Power...0

Shares 6. Shared Voting Power...5,691,480

Beneficially 7. Sole Dispositive Power...0

Owned by 8. Shared Dispositive Power...5,691,480

Each 8. Shared Dispositive Power...5,691,480

Reporting Person With:

9. Aggregate Amount Beneficially Owned by Each Reporting Person...5,691,480

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

11. Percent of Class Represented by Amount in Row (9) 9.19%

12. Type of Reporting Person (See Instructions) PN

CUSIP No. 23282W100

1. Names of Reporting Persons.

QVT Associates GP LLC

I.R.S. Identification Nos. of above persons (entities only).

01-0798253

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...0

6. Shared Voting Power...6,185,152

7. Sole Dispositive Power...0

8. Shared Dispositive Power...6,185,152

9. Aggregate Amount Beneficially Owned by Each Reporting Person...6,185,152

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

11. Percent of Class Represented by Amount in Row (9) 9.99%

12. Type of Reporting Person (See Instructions) OO

This amendment is being filed to reflect warrants acquired from the Issuer that were not included in the initial Schedule 13G filed on May 27, 2009.

- Item 1(a).** Name of Issuer
Cytokinetics, Incorporated (the “Issuer”)
- Item 1(b).** Address of Issuer’s Principal Executive Offices
The address of the Issuer’s principal executive offices is:
280 East Grand Avenue, South San Francisco, California 94080, United States

- Item 2(a).** Name of Person Filing
Item 2(b). Address of Principal Business Office or, if none, Residence
Item 2(c). Citizenship

QVT Financial LP
1177 Avenue of the Americas, 9th Floor
New York, New York 10036
Delaware Limited Partnership

QVT Financial GP LLC
1177 Avenue of the Americas, 9th Floor
New York, New York 10036
Delaware Limited Liability Company

QVT Fund LP
Walkers SPV, Walkers House
Mary Street
George Town, Grand Cayman, KY1 9001 Cayman Islands
Cayman Islands Limited Partnership

QVT Associates GP LLC
1177 Avenue of the Americas, 9th Floor
New York, New York 10036
Delaware Limited Liability Company

- Item 2(d).** Title of Class of Securities
Common stock, \$0.001 par value per share (the “Common Stock”).

- Item 2(e).** CUSIP Number
The CUSIP number of the Common Stock is 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. 78o).

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- (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) A non-U.S. institution in accordance with §240.13d-1(b)(1)(ii)(J);
 - (k) Group, in accordance with §240.13d-1(b)(1)(ii)(K). If filing as a non-U.S. institution in accordance with §240.13d-1(b)(1)(ii)(J), please specify the type of institution: _____.

Item 4. Ownership.

- (a) Amount beneficially owned:

QVT Fund LP (the “Fund”), beneficially owns 4,555,855 shares of Common Stock and 1,668,042 shares of Common Stock underlying common stock purchase warrants (the “Warrants”). Quintessence Fund L.P. (“Quintessence”) beneficially owns 493,672 shares of Common Stock and 180,408 Warrants. The Warrants contain an issuance limitation prohibiting the holder of such Warrants and certain related parties from exercising the Warrants to the extent that such exercise would result in beneficial ownership by such holder or any such related party of more than 9.99% of the Common Stock then issued and outstanding.

QVT Financial LP (“QVT Financial”) is the investment manager for the Fund and Quintessence. Due to the issuance limitation described above, the Fund may be deemed to beneficially own 5,691,480 shares of Common Stock, consisting of the 4,555,855 shares of Common Stock owned by the Fund and 1,135,625 shares of Common Stock issuable upon exercise of the Warrants held by the Fund. Due to the issuance limitation described above, Quintessence may be deemed to beneficially own 493,672 shares of Common Stock. Accordingly, taking into account the issuance limitation, QVT Financial may be deemed to be the beneficial owner of an aggregate amount of 6,185,152 shares of Common Stock, consisting of the shares of Common Stock owned by the Fund and Quintessence and certain of the shares underlying the Warrants owned by the Fund.

The aggregate number of shares of which the Fund would be deemed to be the beneficial owner if the Fund fully exercised all of its Warrants is 6,223,897. The aggregate number of shares of which Quintessence would be deemed to be the beneficial owner if Quintessence exercised all of its Warrants is 674,080. The aggregate number of shares of which QVT Financial would be deemed to be the beneficial owner if the Fund and Quintessence fully exercised all of the Warrants is 6,897,977.

QVT Financial GP LLC, as General Partner of QVT Financial, may be deemed to beneficially own the same number of shares of Common Stock reported by QVT Financial.

QVT Associates GP LLC, as General Partner of the Fund and Quintessence, may be deemed to beneficially own the aggregate number of shares of Common Stock owned by the Fund and Quintessence, and accordingly, QVT Associates GP LLC may be deemed to be the beneficial owner of an aggregate amount of 6,185,152 shares of Common Stock.

QVT Financial, QVT Financial GP LLC, QVT Associates GP LLC and the Fund each acquired beneficial ownership of more than 5% of the class of equity securities as of May 21, 2009. The reported share amounts reflect amounts beneficially owned by the reporting persons as of the date hereof.

Each of QVT Financial and QVT Financial GP LLC disclaims beneficial ownership of the shares of Common Stock owned by the Fund and Quintessence. QVT Associates GP LLC disclaims beneficial ownership of all shares of Common Stock owned by the Fund and Quintessence, except to the extent of its pecuniary interest therein.

The percentage disclosed in Item 11 of the Cover Pages for each reporting person is calculated based upon the sum of (i) 60,777,815 shares of Common Stock outstanding, which is the total number of shares issued and outstanding reported in the Issuer's Prospectus Supplement, filed with the Securities and Exchange Commission on May 19, 2009 and (ii) the number of shares of Common Stock issuable upon exercise of the Warrants held by such reporting person.

(b) Percent of class:

See Item 11 of the Cover Pages to this Schedule 13G.

(c) Number of shares as to which the person has:

(i) Sole power to vote or to direct the vote

0

(ii) Shared power to vote or to direct the vote

See item (a) above.

(iii) Sole power to dispose or to direct the disposition of

0

(iv) Shared power to dispose or to direct the disposition of

See item (a) above.

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

Not Applicable

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 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.

Dated: June 5, 2009

QVT FINANCIAL LP

By QVT Financial GP LLC,
its General Partner

By: /s/ Arthur Chu
Name: Arthur Chu
Title: Managing Member

QVT FUND LP

By QVT Associates GP LLC,
its General Partner

By: /s/ Arthur Chu
Name: Arthur Chu
Title: Managing Member

By: /s/ Oren Eisner
Name: Oren Eisner
Title: Authorized Signatory

By: /s/ Oren Eisner
Name: Oren Eisner
Title: Authorized Signatory

QVT FINANCIAL GP LLC

By: /s/ Arthur Chu
Name: Arthur Chu
Title: Managing Member

QVT ASSOCIATES GP LLC

By: /s/ Arthur Chu
Name: Arthur Chu
Title: Managing Member

By: /s/ Oren Eisner
Name: Oren Eisner
Title: Authorized Signatory

By: /s/ Oren Eisner
Name: Oren Eisner
Title: Authorized Signatory