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

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of Earliest Event Reported):

March 19, 2010

Cytokinetics, Incorporated

(Exact name of registrant as specified in its charter)

Delaware

000-50633

94-3291317

(State or other jurisdiction  
of incorporation)

(Commission  
File Number)

(I.R.S. Employer  
Identification No.)

280 East Grand Avenue, South San Francisco,  
California

94080

(Address of principal executive offices)

(Zip Code)

Registrant's telephone number, including area code:

(650) 624 - 3000

Not Applicable

Former name or former address, if changed since last report

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
  - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
  - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
  - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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[Top of the Form](#)

**Item 8.01 Other Events.**

On March 19, 2010, Cytokinetics, Incorporated issued a press release announcing that the company has opened a Phase IIa "Evidence of Effect" (EoE) clinical trial of CK-2017357 for patients with amyotrophic lateral sclerosis (ALS), also known as Lou Gehrig's Disease. CK-2017357 is a fast skeletal muscle troponin activator and is the lead drug candidate that has emerged from the company's cardiac contractility program. CK-2017357 selectively activates the fast skeletal muscle troponin complex and increases its sensitivity to calcium, resulting in increased skeletal muscle force. In March 2010, CK-2017357 was granted an orphan-drug designation by the United States Food and Drug Administration (FDA) for the potential treatment of ALS.

A copy of the press release is filed as Exhibit 99.1 to this Current Report on Form 8-K, and is incorporated herein by reference.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits.

The following Exhibit is filed as part of this Current Report on Form 8-K:

Exhibit No. Description

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99.1 Press Release, dated March 19, 2010.

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[Top of the Form](#)

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

March 19, 2010

Cytokinetics, Incorporated

By: */s/ Sharon Barbari*

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*Name: Sharon Barbari*  
*Title: Executive Vice President, Finance and Chief Financial Officer*

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Exhibit Index

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release, dated March 19, 2010.

Contact:  
Christopher S. Keenan  
Director, Investor & Media Relations  
(650) 624-3000

**CYTOKINETICS ANNOUNCES  
OPENING OF A PHASE IIA “EVIDENCE OF EFFECT”  
CLINICAL TRIAL OF CK-2017357  
FOR PATIENTS WITH AMYOTROPHIC LATERAL SCLEROSIS**

**South San Francisco, CA, March 19, 2010** – Cytokinetics, Incorporated (Nasdaq:CYTK) announced today that the company has opened a Phase IIA “Evidence of Effect” (EoE) clinical trial of CK-2017357 for patients with amyotrophic lateral sclerosis (ALS), also known as Lou Gehrig’s disease. CK-2017357 is a fast skeletal muscle troponin activator and is the lead drug candidate that has emerged from the company’s skeletal muscle contractility program. CK-2017357 selectively activates the fast skeletal muscle troponin complex and increases its sensitivity to calcium, resulting in increased skeletal muscle force. In March 2010, CK-2017357 was granted an orphan-drug designation by the United States Food and Drug Administration (FDA) for the potential treatment of ALS.

This Phase IIA EOE clinical trial is a double-blind, randomized, placebo-controlled, three-period crossover, pharmacokinetic and pharmacodynamic study of CK-2017357 in male and female patients with ALS. At least 36 and up to 72 patients may be enrolled in this trial. The primary objective of this trial is to evaluate the pharmacodynamic effects of CK-2017357 on measures of skeletal muscle function or fatigability in patients with ALS. Accordingly, in this hypothesis-generating trial, multiple pharmacodynamic assessments will be made without specifying a single primary pharmacodynamic endpoint. These assessments will include various measures of maximum voluntary muscle strength, development of fatigue at maximum and sub-maximum voluntary muscle contraction, and pulmonary function, measured at baseline, and at 3, 6 and 24 hours post-dosing after each of two single doses of CK-2017357 and placebo. The secondary objectives of this clinical trial are to evaluate the relationship between the plasma concentration of CK-2017357 and its pharmacodynamic effects, to evaluate the safety and tolerability of the two single doses of CK-2017357 administered orally to patients with ALS, and to evaluate the effects of CK-2017357 on patient- and investigator-determined global functional assessments.

“This hypothesis-generating clinical trial is designed to evaluate evidence of pharmacodynamic effects of CK-2017357 associated with potentially increased skeletal muscle performance in patients with ALS. Based on non-clinical and clinical results, we believe that we may demonstrate relevant effects with CK-2017357, even after single dose administration,” stated Andrew A. Wolff, MD, FACC, Cytokinetics’ Senior Vice President of Clinical Research and Development and Chief Medical Officer. “We believe that results from this trial, as well as those from our other planned Phase IIA ‘Evidence of Effect’ trial in patients with claudication, have the potential to further inform our understandings of potential therapeutic applications that this novel drug candidate may have in diseases of impaired muscle function.”

**Background on Amyotrophic Lateral Sclerosis**

Amyotrophic lateral sclerosis (ALS) is a progressive neurodegenerative disease that afflicts 20,000 to 30,000 people in the United States. Approximately 5,600 new cases of ALS are diagnosed each year. The average life expectancy of an ALS patient is approximately three to five years and only 10% of patients survive for more than 10 years. Death is usually due to respiratory failure because of diminished strength in the skeletal muscles responsible for breathing. Few treatment options exist for these patients, resulting in a high unmet need for new therapeutic options to address the symptoms and modify the disease progression of this grievous illness.

**Development Status of CK-2017357**

Cytokinetics recently announced data from two Phase I clinical trials evaluating CK-2017357. The first trial is a two-part, single-dose, Phase I clinical trial of CK-2017357. Part A of this trial is designed to assess the safety, tolerability and pharmacokinetic profile of increasing single doses of this drug candidate in healthy volunteers and to determine its maximum-tolerated dose and associated plasma concentrations. To date, single doses up to 2000 mg have been administered without intolerable adverse events being observed. Part B of this trial was designed to assess the pharmacodynamic effects of CK-2017357 on skeletal muscle function after single oral doses of 250, 500 and 1000 mg, and to assess the relationship of the effects observed to the associated plasma concentrations of CK-2017357, also in healthy volunteers. In Part B, CK-2017357 produced concentration-dependent, statistically significant increases versus placebo in the force developed by the tibialis anterior, the muscle evaluated in Part B of this trial. CK-2017357 was well-tolerated and no serious adverse events were reported.

The second trial was a multiple-dose, Phase I clinical trial of CK-2017357 designed to investigate the safety, tolerability and pharmacokinetic profile of CK-2017357 after multiple oral doses to steady state in healthy male volunteers. The trial evaluated doses that produced plasma concentrations in the range associated with pharmacodynamic activity in Part B of the single-dose Phase I study. At steady state, both the maximum plasma concentration and the area under the CK-2017357 plasma concentration versus time curve from before dosing until 24 hours after dosing were generally dose-proportional. In general, systemic exposure to CK-2017357 in this trial was high and inter-subject variability was low. In addition, these multiple-dose regimens of CK-2017357 were well-tolerated, and no serious adverse events were reported. The company believes that these results, in combination with the single-dose Phase I clinical trial data, support progression into Phase IIA “Evidence of Effect” (EoE) clinical trials in patients with neuromuscular diseases and other conditions that may limit mobility, such as the recently opened Phase IIA EOE clinical trial for patients with ALS and a planned Phase IIA EOE clinical trial for patients with claudication.

CK-2017357 has been granted orphan-drug designation by the United States Food and Drug Administration for the potential treatment of ALS.

**Background on Cytokinetics Skeletal Muscle Contractility Program**

CK-2017357, a fast skeletal muscle troponin activator, is the lead drug candidate from the company’s skeletal muscle contractility program. CK-2017357 selectively activates the fast skeletal troponin complex by increasing its sensitivity to calcium, leading to an increase in skeletal muscle force. This mechanism of action has demonstrated encouraging pharmacological activity in preclinical models that may relate to the potential treatment of diseases associated with aging, muscle wasting or neuromuscular dysfunction. Skeletal muscle contractility is driven by the sarcomere, the fundamental unit of skeletal muscle contraction. It is a highly ordered cytoskeletal structure composed of skeletal muscle myosin, the cytoskeletal motor that is directly responsible for converting chemical energy into mechanical force, as well as actin, and a set of regulatory proteins, troponins and tropomyosin, which make the actin-myosin interaction dependent on changes in intracellular calcium levels. Cytokinetics’ skeletal muscle contractility program is focused to the discovery and development of small molecule skeletal sarcomere activators and leverages Cytokinetics’ expertise developed in its ongoing discovery and development of cardiac sarcomere activators, including the cardiac myosin activator *omecantiv mecarbil*, now in clinical development as a potential treatment for heart failure. Skeletal sarcomere activators have demonstrated pharmacological activity in preclinical models that may lead to new therapeutic

options for diseases associated with aging, muscle wasting and neuromuscular dysfunction. The clinical effects of muscle wasting, fatigue and loss of mobility can range from decreased quality of life to, in some instances, life-threatening complications. By directly improving skeletal muscle function, a small molecule activator of the skeletal sarcomere may potentially enhance physical performance and quality of life in aging patients.

## About Cytokinetics

Cytokinetics is a clinical-stage biopharmaceutical company focused on the discovery and development of small molecule therapeutics that modulate muscle function for the potential treatment of serious diseases and medical conditions. Cytokinetics' lead drug candidate from its cardiac muscle contractility program, *omecamtiv mecarbil* (formerly CK-1827452), is in clinical development for the potential treatment of heart failure. Amgen Inc. holds an exclusive license worldwide (excluding Japan) to develop and commercialize *omecamtiv mecarbil* and related compounds, subject to Cytokinetics' specified development and commercialization participation rights. Cytokinetics is independently developing CK-2017357, a skeletal muscle activator, as a potential treatment for diseases and conditions associated with aging, muscle wasting or neuromuscular dysfunction. CK-2017357 is currently the subject of a Phase IIa clinical trials program and has been granted orphan-drug designation by the United States Food and Drug Administration (FDA) for the potential treatment of amyotrophic lateral sclerosis. Cytokinetics is also conducting non-clinical development of compounds that inhibit smooth muscle contractility and which may be useful as potential treatments for diseases and conditions such as systemic hypertension or bronchoconstriction. In addition, prior Cytokinetics' research generated three anti-cancer drug candidates that have progressed into clinical development: ispinesib, SB-743921 and GSK-923295. All of these drug candidates and potential drug candidates have arisen from Cytokinetics' research activities and are directed towards the cytoskeleton. The cytoskeleton is a complex biological infrastructure that plays a fundamental role within every human cell. Additional information about Cytokinetics can be obtained at [www.cytokinetics.com](http://www.cytokinetics.com).

*This press release contains forward-looking statements for purposes of the Private Securities Litigation Reform Act of 1995 (the "Act"). Cytokinetics disclaims any intent or obligation to update these forward-looking statements, and claims the protection of the Act's Safe Harbor for forward-looking statements. Examples of such statements include, but are not limited to, statements relating to Cytokinetics' and its partners' research and development activities, including the initiation, enrollment, conduct, design and results of clinical trials, the significance and utility of clinical trial and non-clinical study results; the potential market size and opportunities for CK-2017357 and other skeletal muscle activators; and the properties and potential benefits of Cytokinetics' drug candidates and potential drug candidates, such as CK-2017357. Such statements are based on management's current expectations, but actual results may differ materially due to various risks and uncertainties, including, but not limited to, potential difficulties or delays in the development, testing, regulatory approvals for trial commencement, progression or product sale or manufacturing, or production of Cytokinetics' drug candidates that could slow or prevent clinical development or product approval, including risks that current and past results of clinical trials or preclinical studies may not be indicative of future clinical trials results, patient enrollment for or conduct of clinical trials may be difficult or delayed, Cytokinetics' drug candidates may have adverse side effects or inadequate therapeutic efficacy, the U.S. Food and Drug Administration (FDA) or foreign regulatory agencies may delay or limit Cytokinetics' or its partners' ability to conduct clinical trials, the FDA may not grant CK-2017357 orphan-drug market exclusivity even if it is approved for marketing, and Cytokinetics may be unable to obtain or maintain patent or trade secret protection for its intellectual property; Amgen's decisions with respect to the design, initiation, conduct, timing and continuation of development activities for *omecamtiv mecarbil*; Cytokinetics may incur unanticipated research and development and other costs or be unable to obtain additional financing necessary to conduct development of its products; Cytokinetics may be unable to enter into future collaboration agreements for its drug candidates and programs on acceptable terms, if at all; standards of care may change, rendering Cytokinetics' drug candidates obsolete; competitive products or alternative therapies may be developed by others for the treatment of indications Cytokinetics' drug candidates and potential drug candidates may target; and risks and uncertainties relating to the timing and receipt of payments from its partners, including milestones and royalties on future potential product sales under Cytokinetics' collaboration agreements with such partners. For further information regarding these and other risks related to Cytokinetics' business, investors should consult Cytokinetics' filings with the Securities and Exchange Commission.*

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