



Cytokinetics Announces Opening of Next Phase II Clinical Trial of CK-2017357 in Patients With Amyotrophic Lateral Sclerosis

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Company Provides Update on Plans for CK-2017357 and Other Next Generation Skeletal Muscle Activators

SOUTH SAN FRANCISCO, CA, Jun 21, 2011 (MARKETWIRE via COMTEX) -- Cytokinetics, Incorporated (NASDAQ: CYTK) announced today that the company has opened enrollment in a second Phase II clinical trial of CK-2017357 in patients with amyotrophic lateral sclerosis (ALS). CK-2017357, a fast skeletal muscle troponin activator, selectively activates the fast skeletal muscle troponin complex by increasing its sensitivity to calcium, which increases skeletal muscle force in response to neuronal input and delays the onset and reduces the degree of muscle fatigue. CK-2017357 is the lead drug candidate that has emerged from the company's skeletal muscle contractility program.

This clinical trial is a double-blind, randomized, placebo-controlled trial designed to evaluate the safety and tolerability of multiple doses of CK-2017357 in patients with ALS. An estimated 24 patients are planned to be enrolled at eight to ten study centers in the United States. Patients in the trial will be randomized to one of four different treatment groups, to receive daily oral doses of placebo, 125 mg, 250 mg, or 375 mg of CK-2017357, respectively, for two weeks; clinical assessments will take place at pre-determined times during the course of treatment. Patients will also participate in follow-up evaluations one week after their final dose.

The primary objective of this clinical trial is to assess the safety and tolerability of CK-2017357, after multiple oral doses to steady state plasma concentrations, in patients with ALS. A secondary objective of this clinical trial is to evaluate the ALS Functional Rating Scale-revised (ALSFRS-R), other measures of pulmonary function, muscle strength and fatigue, and physician and patient global assessments in these patients while receiving two weeks of treatment with CK-2017357 at the indicated doses or placebo.

"We are pleased to announce this next trial in our program directed to the evaluation of CK-2017357 in patients with ALS," stated Jesse M. Cedarbaum, MD, Cytokinetics' Vice President of Clinical Research and Operations, Neuroscience and Neuromuscular Disorders. "This clinical trial is designed to complement our prior single-dose Phase IIa Evidence of Effect trial, which we successfully concluded in 2010, and now evaluate the safety and tolerability of CK-2017357 when administered daily to achieve steady state plasma concentrations."

"This clinical trial is the seventh in a series of trials designed to evaluate CK-2017357 for the potential treatment of patients with muscle dysfunction or impairment. Progressing CK-2017357 into a Phase IIb clinical trial in 2012 in patients with ALS remains a priority for our company," stated Robert I. Blum, Cytokinetics' President and CEO. "We hope data from this clinical trial can inform a potential registration path for our novel mechanism drug candidate directed to the potential treatment of ALS patients."

Update on Cytokinetics' Skeletal Muscle Contractility Program

In addition to CK-2017357, Cytokinetics is also advancing back-up and follow-on skeletal muscle activators, each with different physiochemical properties, and intended to supplement Cytokinetics' ongoing development activities. In addition to CK-2066260, the company has identified another potential drug candidate from its research directed to fast-twitch skeletal muscle activation. Cytokinetics is progressing both compounds in non-clinical research and development activities. The company does not have current plans to file an investigational new drug application (IND) for either of these compounds in 2011.

Development Status of CK-2017357

CK-2017357 is currently the subject of a clinical trials program that includes two completed Phase I studies in healthy volunteers and two completed Phase IIa Evidence of Effect clinical trials: one in patients with ALS and the other in patients with claudication associated with peripheral artery disease, all of which have been previously reported. In addition, a Phase IIa Evidence of Effect clinical trial in patients with myasthenia gravis is ongoing. CK-2017357 has been granted orphan-drug status by the United States Food and Drug Administration for the potential treatment of ALS.

In the Phase IIa Evidence of Effect clinical trial in patients with ALS, the single doses of CK-2017357 evaluated appeared safe and generally well-tolerated. In addition, both patients and investigators perceived a positive change in the patients' overall status, in a dose-dependent fashion, at 6 hours after dosing with CK-2017357, based on a Global Assessment in which the patient and the investigator each independently assessed patients' status compared to prior to dosing. Furthermore, there was a clear relationship between improvements in Global Assessments and the CK-2017357 plasma concentration. Improvements in the patients' and investigators' Global Assessments were associated with a trend towards decreased muscle fatigability, as evidenced by data from a test of sub-maximal hand-grip endurance. Data from this clinical trial also demonstrated a statistically significant, dose-related increase the maximum volume of air patients could inhale and exhale in ten seconds (Maximum Voluntary Ventilation) at both 6 and 24 hours after 500 mg of CK-2017357, as well as small but statistically significant increases in strength of certain muscle groups tested.

In the Phase IIa Evidence of Effect clinical trial in patients with claudication associated with peripheral artery disease, the single doses of CK-2017357 evaluated appeared safe and generally well-tolerated. CK-2017357 increased calf muscle performance in these patients as evidenced by an increase in work achieved during bilateral heel raise testing, a performance measure developed for this trial. Increases in calf muscle performance and adverse events appeared to be related to both increasing dose and plasma concentration of CK-2017357.

Cytokinetics is also conducting an ongoing Phase I drug-drug interaction study of CK-2017357 administered orally to healthy volunteers. The study is intended to evaluate the effects of CK-2017357 on the pharmacokinetics of riluzole and other drugs and the pharmacokinetics of CK-2017357 when administered after a meal and when fasting.

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.

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 muscle 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. The sarcomere 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 omecamtiv 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 novel 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 U.S. Food and Drug Administration for the potential treatment of amyotrophic lateral sclerosis, a debilitating disease of neuromuscular impairment in which CK-2017357 demonstrated potentially clinically relevant pharmacodynamic effects in a Phase IIa trial. Cytokinetics is also conducting research and non-clinical development of compounds that inhibit smooth muscle contractility and which may be useful as potential treatments for diseases and conditions associated with excessive smooth muscle contraction, such as bronchoconstriction associated with asthma and chronic obstructive pulmonary disorder (COPD). 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.

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 plans for and the initiation, conduct, design and results of clinical trials for CK-2017357, and the significance and utility of clinical trial results for CK-2017357; the potential size of markets for CK-2017357, and the properties and potential benefits of CK-2017357 and Cytokinetics' other drug candidates and potential drug candidates, including CK-2017357's potential utility in the treatment of patients with ALS. 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 exclusivity in ALS 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 on acceptable terms, if at all; funding from the National Institute of Neurological Disorders and Stroke may not be available in future periods; 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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