



## **Cytokinetics Announces Award of Grant for Preclinical and Clinical Development of CK-2017357 in Myasthenia Gravis**

July 26, 2010 11:31 AM EDT

SOUTH SAN FRANCISCO, CA, Jul 26, 2010 (MARKETWIRE via COMTEX) --

Cytokinetics, Incorporated (NASDAQ: CYTK) announced today that the National Institute of Neurological Disorders and Stroke (NINDS) has awarded the company a grant in the amount of \$2.9 million to support research and development of CK-2017357, a fast skeletal muscle troponin activator, directed to the potential treatment for myasthenia gravis. The grant was awarded to Cytokinetics under the American Recovery and Reinvestment Act of 2009.

"We are pleased to receive this award which affords us the opportunity to further investigate CK-2017357 as a potential treatment for patients with myasthenia gravis. With this funding, we intend to conduct further preclinical research which may support the initiation of a third Phase IIa Evidence of Effect clinical trial with this novel drug candidate. This third trial would be in addition to the two Phase IIa trials now underway, one in patients with amyotrophic lateral sclerosis and the other in patients with claudication associated with peripheral artery disease," stated Robert I. Blum, President and CEO, Cytokinetics. "This grant serves as further evidence of Cytokinetics' commitment to broadly investigate the pharmacology of skeletal muscle activators and recognizes the innovation and promise of our biopharmaceutical discovery and development activities."

NINDS, a division of the National Institutes of Health (NIH), conducts and supports research on brain and nervous system disorders. The mission of the NINDS is to reduce the burden of neurological disease -- a burden borne by every age group, every segment of society, and people all over the world. Created by the U.S. Congress in 1950, NINDS is one of the more than two dozen research institutes and centers that comprise the NIH. The NIH, located in Bethesda, Maryland, is an agency of the Public Health Service within the U.S. Department of Health and Human Services. NINDS has occupied a central position in the world of neuroscience for more than 50 years.

### **Background on Myasthenia Gravis**

Myasthenia gravis is a progressive, chronic, autoimmune neuromuscular disease that commonly strikes people between the ages of 40 and 70 and afflicts between 50,000 and 85,000 people in the United States. Approximately 13,600 new cases of myasthenia gravis are diagnosed each year. Myasthenia gravis is a disease in which the immune system attacks the body's own tissues. The attack occurs at the junction between nerve and muscle and targets either the acetylcholine receptor, the part of a muscle cell that receives signals from a nerve cell or muscle-specific kinase, a protein that helps organize acetylcholine receptors on the muscle cell. The cause of myasthenia gravis is unclear. Researchers suspect viruses or bacteria might trigger the autoimmune response; the thymus gland also sometimes seems to play a role in the disease. The symptoms include fatigue and weakness of voluntary muscles, partial paralysis of eye movements, double vision, droopy eyelids, and weakness and fatigue in neck and jaws with problems in chewing, swallowing and holding up the head; this weakness can become more generalized. As myasthenia gravis progresses, weakness fluctuates each day but tends to spread and progress over the course of a few years, especially if untreated.

### **Development Status of CK-2017357**

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 for the potential treatment of amyotrophic lateral sclerosis (ALS). Cytokinetics is currently conducting two Phase IIa Evidence of Effect (EoE) clinical trials: one in patients with ALS and one in patients with claudication associated with peripheral artery disease.

Cytokinetics has announced top-line data from two Phase I clinical trials evaluating CK-2017357. The first trial was a two-part, single-dose trial. Part A of this trial was designed to assess the safety, tolerability and pharmacokinetic profile of increasing single doses of this drug candidate in healthy male volunteers and to determine its maximum-tolerated dose and associated plasma concentrations. The maximum-tolerated single dose of CK-2017357 in Part A of the trial was 2000 mg. Part B of this trial was designed to assess the pharmacodynamic effects, versus placebo, 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 male volunteers. In Part B, CK-2017357 produced concentration-dependent, statistically significant increases versus placebo in the force developed by the tibialis anterior muscle. In both Part A and Part B, 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 clinical trial. 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.

### **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 sarcomere activator 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, 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 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, conduct, design and results of preclinical studies and clinical trials of CK-2017357, the significance and utility of clinical trial results for CK-2017357, and the properties and potential benefits of CK-2017357 and Cytokinetics' other drug candidates and potential drug candidates. 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 or foreign regulatory agencies may delay or limit Cytokinetics' or its partners' ability to conduct clinical trials, 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.

#### Contact: [

Christopher S. Keenan

Director, Investor & Media Relations

(650) 624-3000

SOURCE: Cytokinetics, Inc.