Cytokinetics Announces Opening of a Phase IIa "Evidence of Effect" Clinical Trial of CK-2017357 in Patients With Peripheral Artery Disease and Claudication

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SOUTH SAN FRANCISCO, CA, May 27, 2010 (MARKETWIRE via COMTEX) --Cytokinetics, Incorporated (NASDAQ: CYTK) announced today that the company has opened to enrollment a Phase IIa "Evidence of Effect" (EoE) clinical trial of CK-2017357 in patients with peripheral artery disease and claudication. CK-2017357 is a fast skeletal muscle troponin activator and the lead drug candidate 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 and slowing of time to muscle fatigue.

This Phase IIa EoE clinical trial is a double-blind, randomized, placebo-controlled, three-period crossover, pharmacokinetic and pharmacodynamic study of CK-2017357 in patients with peripheral artery disease and claudication. At least 36 and up to 72 patients may be enrolled in this trial. In each dosing period, patients will receive a single oral dose of placebo, 375 mg or 750 mg of CK-2017357; over the course of the three dosing periods, each patient will receive, in random order, each one of these three single doses. A wash out period of at least 6 days (to a maximum of 10 days) will be employed between the individual doses for each patient.

The primary objective of this hypothesis-generating Phase IIa trial is to evaluate the pharmacodynamic effects of single doses of CK-2017357 on measures of skeletal muscle function and fatigability in patients with peripheral artery disease and claudication. In this trial, multiple assessments of skeletal muscle function and fatigability will be performed without specifying a single primary pharmacodynamic endpoint. The assessments include the number of contractions, time and work to onset of claudication, and to intolerable claudication pain or to maximum calf muscle fatigue during bilateral heel raises. A six-minute walk test will also be performed during each dosing period. The secondary objectives of this trial are to evaluate and characterize the relationship, if any, between the doses and plasma concentrations of CK-2017357 and its pharmacodynamic effects and to evaluate the safety and tolerability of CK-2017357 administered as single oral doses to patients with peripheral artery disease and claudication.

"Opening this clinical trial of CK-2017357 in patients with peripheral artery disease and claudication demonstrates Cytokinetics' continued commitment to develop new treatments for unmet medical needs," 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 on-going Phase IIa 'Evidence of Effect' trial in patients with amyotrophic lateral sclerosis, may further inform our understanding of possible therapeutic applications that this novel drug candidate may have in the potential treatment of patients suffering from diseases or conditions associated with impaired skeletal muscle function."

Background on Peripheral Artery Disease and Claudication

Claudication is a symptomatic complication associated with peripheral artery disease (PAD). Claudication associated with PAD results primarily from atherosclerosis of arteries in the lower extremities. During walking or other exercise, patients suffering from claudication experience fatigue, aching, cramping, and burning pain in the legs due to impaired blood circulation and chronic changes in muscle metabolism. As many as 3 million people in the United States, including 5% of the population over age 70, are affected by claudication due to PAD.

Development Status of CK-2017357

Cytokinetics recently announced 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 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 peripheral artery disease and claudication and in patients with amyotrophic lateral sclerosis (ALS).

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 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.

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 for CK-2017357, the significance and utility of clinical trial results for CK-2017357 and non-clinical study results for CK-2017357 and Cytokinetics' other skeletal muscle activators; the potential market size and opportunities for CK-2017357 and other skeletal muscle activators; 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 (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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