



Cytokinetics Announces Initiation of First-Time-in-Humans, Phase I Clinical Trial of CK-2127107

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Second Drug Candidate from Cytokinetics' Fast Skeletal Muscle Activator Program Begins Clinical Trial in Expanded Development Program

South San Francisco, CA, April 1, 2013 - Cytokinetics, Incorporated (Nasdaq: CYTK) announced today the initiation of a first-time-in-humans, Phase I clinical trial of CK-2127107 in healthy male volunteers. Cytokinetics is developing CK-2127107, a novel small molecule activator of the fast skeletal muscle troponin complex, for the potential improvement of skeletal muscle function in diseases and medical conditions associated with neuromuscular dysfunction, muscular weakness, and/or muscle fatigue. Like *tirasemtiv*, the lead drug candidate from the company's skeletal muscle activator program, CK-2127107 slows the rate of calcium release from the regulatory troponin complex of fast skeletal muscle fibers, which sensitizes the sarcomere to calcium.

CK-2127107 was discovered in connection with Cytokinetics' optimization of a different chemical series than that which produced *tirasemtiv*, which is currently being evaluated in BENEFIT-ALS (**B**linded **E**valuation of **N**euromuscular **E**ffects and **F**unctional Improvement with *T*irasemtiv **i**n **A**LS). BENEFIT-ALS is an international, double-blind, randomized, placebo-controlled, Phase IIb clinical trial designed to evaluate the safety, tolerability and potential efficacy of *tirasemtiv* in patients with amyotrophic lateral sclerosis (ALS). Advancing CK-2127107 to Phase I evaluation in healthy subjects is consistent with Cytokinetics' corporate strategy to characterize a potential back-up compound to *tirasemtiv* in humans and to enable the evaluation of fast skeletal muscle troponin activation in a potentially broader set of clinical indications.

The Phase I clinical trial of CK-2127107 is a double-blind, randomized, placebo-controlled study designed to assess the safety, tolerability, and pharmacokinetics of single ascending oral doses of CK-2127107 administered to healthy adult males in a three period, escalating dose, crossover design. The primary objective of this study is to determine the safety and tolerability of single doses of CK-2127107 administered orally to healthy male volunteers. The secondary objective is to evaluate the pharmacokinetic profile of single doses of CK-2127107.

"This first-time-in-humans clinical trial of CK-2127107 builds on our expertise in the biology of skeletal muscle function," stated Fady Malik, MD, PhD, Cytokinetics' Senior Vice President, Research and Early Development. "Advancing CK-2127107 provides us an opportunity to develop a pipeline of drug candidates focused on skeletal muscle weakness resulting from an array of diseases associated with muscle wasting or primary neuromuscular dysfunction."

"The initiation of this Phase I clinical trial is further demonstration of Cytokinetics' commitment to build a portfolio of drug candidates with novel mechanisms that leverage our expertise in the biology of the cytoskeleton and our pioneering pharmacology associated with muscle contractility," stated Robert I. Blum, Cytokinetics' President and CEO. "CK-2127107 is the sixth novel chemical entity that has arisen from our research and development activities to proceed to human clinical testing."

Background on Fast Skeletal Muscle Activators

Skeletal muscle contractility is driven by the sarcomere, the fundamental unit of skeletal muscle contraction. It is a highly ordered cytoskeletal structure composed of several key proteins. The first, skeletal muscle myosin, is the cytoskeletal motor protein that converts chemical energy into mechanical force through its interaction with a second protein, actin. A set of regulatory proteins, which includes tropomyosin and several types of troponin, 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 gained from its ongoing discovery and development of cardiac sarcomere activators, including the cardiac myosin activator *omecamtiv mecarbil*, now in Phase IIb clinical development as a potential treatment for heart failure. In non-clinical models, skeletal sarcomere activators have demonstrated pharmacological activity 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 patients with conditions marked by muscle weakness, including neuromuscular diseases such as ALS, myasthenia gravis, cachexia, sarcopenia and general frailty associated with aging.

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*, is in Phase II 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 *tirasemtiv* and CK-2127107, both fast skeletal muscle activators, as potential treatments for diseases and medical conditions associated with aging, muscle wasting or neuromuscular dysfunction. *Tirasemtiv* is currently the subject of a Phase II clinical trials program and has been granted orphan drug designation and fast track status by the U.S. Food and Drug Administration and orphan medicinal product designation by the European Medicines Agency for the potential treatment of amyotrophic lateral sclerosis, a debilitating disease of neuromuscular impairment in which treatment with *tirasemtiv* produced potentially clinically relevant pharmacodynamic effects in Phase II trials. All of these drug candidates have arisen from Cytokinetics' muscle biology focused 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' research and development activities, including the conduct, design and results of clinical trials, the significance and utility of clinical trial results, and the properties and potential benefits of Cytokinetics' skeletal muscle activators, including *tirasemtiv* and CK-2127107, and other 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, Cytokinetics anticipates that it will be required to conduct at least one confirmatory Phase III clinical trial of *tirasemtiv* in ALS patients which will require*

significant additional funding, and it may be unable to obtain such additional funding on acceptable terms, if at all; 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.

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