Cytokinetics Announces Publication of Preclinical Data Relating to CK-2127107 and Exercise Tolerance in Rodent Model of Heart Failure

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Manuscript Supports Rationale for Development of CK-2127107 in Diseases Associated with Muscle Weakness and Fatigue

South San Francisco, CA, February 26, 2015 - Cytokinetics, Incorporated (Nasdaq: CYTK) announced the publication of a manuscript relating to its fast skeletal muscle troponin activator CK-2127107 in *The Journal of Pharmacology and Experimental Therapeutics*. This publication relates to a preclinical evaluation of CK-2127107 in a rat model of heart failure that demonstrated CK-2127107 was associated with increased exercise performance in this model. Cytokinetics is developing CK-2127107 in collaboration with Astellas Pharma Inc. ("Astellas," Tokyo: 4503).

"We are pleased to share additional preclinical data on CK-2127107 that highlight the potential application of its mechanism of action in patients with conditions such as heart failure, which can result in exercise intolerance due to skeletal muscle weakness and fatigue," stated Fady I. Malik, MD, PhD, Cytokinetics' Senior Vice President, Research and Development. "We believe that the results summarized in this peer-reviewed manuscript support the development of CK-2127107 in diseases and conditions characterized by muscle weakness and fatigue."

The publication, titled "The Small Molecule Fast Skeletal Troponin Activator, CK-2127107, Improves Exercise Tolerance in a Rat Model of Heart Failure," appeared online in the February edition of *The Journal of Pharmacology and Experimental Therapeutics.* The objective of the study was to investigate the effect of CK-2127107 on skeletal muscle function and exercise performance in rats exhibiting heart failure-mediated skeletal myopathy. In this study, rats underwent left anterior descending coronary artery ligation resulting in myocardial infarction and a progressive decline in cardiac function consistent with the development of heart failure (LAD-HF rats). Compared to sham-operated control rats, LAD-HF rat hindlimb and diaphragm muscles exhibited significant muscle atrophy. Fatigability was increased during repeated contraction of the hindlimb. Exercise performance assessed by rotarod running was lower in LAD-HF rats compared to sham controls. Consistent with its mechanism of action, CK-2127107 produced a leftward shift in the force-calcium relationship of muscle fibers from diaphragm and a limb muscle, the extensor digitorum longus. In the LAD-HF rats, a single oral dose of CK-2127107 increased the running time of these rats to levels comparable to those of CK-2127107 treated sham controls. The authors concluded that CK-2127107 substantially increases exercise performance in this heart failure model, suggesting that modulation of skeletal muscle function by a fast skeletal troponin activator may be a useful therapeutic approach in heart failure associated exercise intolerance.

About CK-2127107

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. Skeletal muscle myosin is the cytoskeletal motor protein that converts chemical energy into mechanical force through its interaction with 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. CK-2127107, a novel skeletal muscle activator arising from Cytokinetics' skeletal muscle contractility program, slows the rate of calcium release from the regulatory troponin complex of fast skeletal muscle fibers, which sensitizes the sarcomere to calcium, leading to an increase in skeletal muscle contractility. CK-2127107 has demonstrated pharmacological activity that may lead to new therapeutic options for diseases associated with muscle weakness and fatigue. CK-2127107 has been the subject of five completed Phase I clinical trials in healthy volunteers, which evaluated safety, tolerability, bioavailability, pharmacokinetics and pharmacodynamics. Cytokinetics is planning to conduct a Phase II clinical trial of CK-2127107 in patients with SMA beginning later this year under its collaboration with Astellas.

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 is developing *tirasemtiv*, a fast skeletal muscle activator, as a potential treatment for amyotrophic lateral sclerosis (ALS). *Tirasemtiv* 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 ALS. Cytokinetics is collaborating with Amgen Inc. to develop *omecamtiv mecarbil*, a cardiac muscle activator, for the potential treatment of heart failure. Cytokinetics is collaborating with Astellas Pharma Inc. to develop CK-2127107, a fast skeletal muscle activator, for the potential treatment of spinal muscular atrophy. Amgen holds an exclusive license worldwide to develop and commercialize *omecamtiv mecarbil* and Astellas holds an exclusive license worldwide to develop and commercialize CK-2127107. Both licenses are subject to Cytokinetics' specified development and commercialization participation rights. 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 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' research and development activities, including planned clinical trials and the potential significance and utility of the results from preclinical studies and clinical trials; and the properties and potential benefits of skeletal muscle activators and of CK-2127107 and Cytokinetics' 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, further clinical development of tirasemtiv in ALS patients will require significant additional funding, and Cytokinetics 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 and Astellas' decisions with respect to the design, initiation, conduct, timing and continuation of development activities for omecamtiv mecarbil and CK-2127107, respectively; 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:

Cytokinetics, Inc.
Joanna L. Goldstein (Investors & Media)
(650) 624-3000