Cytokinetics Announces Non-Clinical Data Relating to Its Skeletal Muscle Contractility Program Presented at the Biophysical Society 53rd Annual Meeting

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SOUTH SAN FRANCISCO, CA, Mar 04, 2009 (MARKET WIRE via COMTEX) -- Cytokinetics, Incorporated (NASDAQ: CYTK) announced today that three abstracts summarizing non-clinical data regarding its skeletal muscle contractility program were presented as poster presentations at the Biophysical Society 53rd Annual Meeting held February 28 - March 4, 2009 in Boston, Massachusetts. Cytokinetics' skeletal muscle contractility program is focused on the discovery and development of novel, small molecules that activate the skeletal sarcomere by sensitizing the skeletal muscle troponin complex to calcium, subsequently leading to an increase in skeletal muscle contractility.

Recently, the company announced that it plans to submit an investigational new drug application (IND) in 2009 for CK-2017357, a skeletal muscle troponin activator, which had been selected for development in April 2008. This compound is the lead potential drug candidate which has arisen from the company's skeletal muscle contractility program. The company also recently announced that is has designated a second skeletal muscle troponin activator from this research program for development.

Poster Presentations at Biophysical Society 53rd Annual Meeting

The poster presentation titled, "The Fast Skeletal Troponin Activator, CK-1909178, Increases Skeletal Muscle Force in vitro and in situ," was presented on Monday, March 2, 2009 by Alan Russell, Ph.D. and Ken Lee, Cytokinetics, Inc., South San Francisco, CA. One objective of this study was to evaluate whether CK-1909178, a small molecule skeletal troponin activator, changes force development in native skeletal muscle preparations in vitro, using skinned and living skeletal muscle fibers and in situ, where innervation and blood supply were left intact. Another objective of the study was to understand activity of this compound in fast and slow muscle fibers. The authors concluded that CK-1909178 increases sub-maximal force development in fast skeletal rat and rabbit muscle in vitro. In living flexor digitorum brevis preparations, increases in force are coupled to frequency-independent increases in relaxation time. In addition, the authors concluded that skinned slow skeletal muscle fibers are approximately ten-fold less responsive to CK-1909178 than skinned fast skeletal muscle fibers, confirming the specificity of CK-1909178 for the fast skeletal troponin complex. Finally, the authors concluded that CK-1909178, administered arterially, increases sub-maximal force development in the extensor digitorum longus muscle in rats. In contrast to in vitro results, the increases in relaxation time are attenuated and directly proportional to increases in force. These data support the hypothesis that the mechanism of action of the troponin activator, CK-1909178, increases the sensitivity of skeletal muscle to direct or indirect stimulation, which in turn increases muscle force development. These findings may translate into potential functional improvements in skeletal muscle performance.

The poster presentation titled, "The Small Molecule Skeletal Sarcomere Activator, CK-1909178, is a Calcium Sensitizer that Binds Selectively to the Fast Skeletal Troponin Complex," was presented on Monday, March 2, 2009 by James Hartman, Ph.D., Cytokinetics, Inc., South San Francisco, CA. The objective of this study was to define the biochemical mechanism of the sarcomere activator, CK-1909178. The authors concluded that CK-1909178 selectively sensitizes the ATPase activity of skinned fast skeletal myofibrils to calcium without significant activation of myofibrils from slow skeletal or cardiac tissue. This selectivity is believed to be due to a requirement for the fast skeletal isoform of troponin and thus reconstituted sarcomere assays containing slow skeletal or cardiac troponin are not activated by CK-1909178. CK-1909178 binds directly to purified fast skeletal troponin as demonstrated by isothermal titration calorimetry. Calcium dissociation from fast skeletal troponin is slowed by CK-1909178, consistent with its activating effect on myofibrils at intermediate (but not high and low) calcium concentrations. These results support further studies of the potential therapeutic uses of skeletal troponin activators in diseases and medical conditions associated with skeletal muscle weakness.

The poster presentation titled, "An Automated Apparatus for Isometric Force Analysis of Skinned Muscle Fibers," was presented on Wednesday, March 4, 2009 by Richard Hansen, Ph.D., Cytokinetics, Inc., South San Francisco, CA. The authors explained that, as part of an assay paradigm to optimize small molecule activators of the skeletal sarcomere, a higher-throughput system for testing compounds in isolated skinned muscle fibers was developed. The system consists of multiple rigs controlled independently through a common application interface which runs several assay protocols. Each protocol runs unattended and has built-in fiber quality and stability metrics. A separate application for reviewing data was also developed that allows fiber traces to be examined and selected for aggregation into a consolidated report ready for upload into a relational database. This system has allowed characterization of several hundred compounds as part of a lead-optimization program.

Background on 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 skeletal muscle myosin, the cytoskeletal motor that is directly responsible for converting chemical energy into the mechanical force, actin, and a set of regulatory proteins, which include 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. This program leverages Cytokinetics' expertise developed in its ongoing discovery and development of cardiac sarcomere activators, including the cardiac myosin activator, CK-1827452, now in Phase II clinical development as a potential treatment for heart failure. Cytokinetics' skeletal sarcomere activators have demonstrated pharmacological activity that may lead to new therapeutic options for diseases and medical conditions associated with aging, muscle weakness and neuromuscular dysfunction. The clinical effects of muscle weakness, 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' cardiac muscle contractility program is

focused on cardiac muscle myosin, a motor protein essential to cardiac muscle contraction. Cytokinetics' lead compound from this program, CK-1827452, a novel small molecule cardiac muscle myosin activator, is in Phase II clinical trials for the treatment of heart failure. Amgen Inc. has obtained an option for an exclusive license to develop and commercialize CK-1827452, subject to Cytokinetics' development and commercialization participation rights. In April 2008, Cytokinetics announced the selection of a potential drug candidate, CK-2017357, directed towards skeletal muscle contractility which may be developed as a potential treatment for diseases and medical conditions associated with skeletal muscle weakness. In January 2009, Cytokinetics announced the selection of a potential drug candidate directed towards smooth muscle contractility which may be developed as a potential treatment for diseases associated with pulmonary arterial hypertension and bronchoconstriction.

Cytokinetics' cancer program is focused on mitotic kinesins, a family of motor proteins essential to cell division. Cytokinetics is developing two drug candidates that have arisen from this program, ispinesib and SB-743921, each an inhibitor of kinesin spindle protein. In addition, Cytokinetics and GlaxoSmithKline are conducting research and development activities focused on GSK-923295, an inhibitor of centromere-associated protein E.

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' research and development activities, including the potential submission of an IND for CK-2017357 and the significance of preclinical study results relating to CK-1909178; and the potential benefits of Cytokinetics' skeletal sarcomere activators and its 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 approval and production of Cytokinetics' drug candidates and potential drug candidates that could slow or prevent clinical development or product approval, including risks that current and past results of preclinical studies or clinical trials may not be indicative of future clinical trials results, the U.S. Food and Drug Administration or foreign regulatory agencies may delay or limit Cytokinetics' or its partners' ability to conduct clinical trials, Cytokinetics may incur unanticipated research and development and other costs or be unable to obtain additional financing necessary to conduct development of its products, and Cytokinetics' drug candidates and potential drug candidates may have unexpected adverse side effects or inadequate therapeutic efficacy. 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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