Cytokinetics Announces Updates Relating to Muscle Biology Research and Non-Clinical Development Programs

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IND Filing Planned for CK-2017357 in 2009 -- Second Skeletal Muscle Troponin Activator Selected for Development; Smooth Muscle Myosin Inhibitor Selected for Development -- Potential Drug Candidate to Enter IND-Enabling Studies in 2009

SOUTH SAN FRANCISCO, CA, Jan 12, 2009 (MARKET WIRE via COMTEX News Network) -- Cytokinetics, Incorporated (NASDAQ: CYTK) announced updates relating to its internal research programs directed to muscle biology. The company announced that it plans to file an IND in 2009 for CK-2017357, a skeletal muscle 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 activator program. The company also announced that is has recently designated a second skeletal muscle activator from this research program for development. In addition, Cytokinetics announced the selection of a small molecule inhibitor of smooth muscle myosin for development. This potential drug candidate is expected to enter IND-enabling studies in 2009.

CK-2017357 and the backup skeletal muscle activator are structurally distinct small molecule activators of the troponin complex. Activation of the troponin complex by each of these compounds increases its sensitivity to calcium, subsequently leading to an increase in skeletal muscle contractility. 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, and neuromuscular dysfunction. Cytokinetics generally seeks to identify backups for its lead drug candidates in order to mitigate any development risks that might be encountered with a lead development compound.

The development compound selected for advancement in the smooth muscle research program is a direct small molecule inhibitor of smooth muscle myosin, the motor protein responsible for the contraction of the smooth muscle cells that surround airways in the lungs and the blood vessels that control blood pressure. By inhibiting the function of the myosin motor central to the contraction of smooth muscle, this potent small molecule directly leads to the relaxation of contracted smooth muscle. Specifically designed for inhaled delivery applications, this development compound has demonstrated encouraging pharmacological activity in preclinical models that may relate to its uses as a novel mechanism bronchodilator for the potential treatment of diseases, such as pulmonary hypertension, asthma and chronic obstructive pulmonary disease (COPD).

"We are pleased with our progress in both of our skeletal and smooth muscle programs, most notably our preparations towards the filing of an IND for CK-2017357. The selection of a back-up compound that may potentially follow behind CK-2017357 is intended to help mitigate any development risks associated with our lead candidate thereby increasing our likelihood for future drug development success in this area," stated David J. Morgans, Jr., Ph.D., Cytokinetics' Executive Vice President, Preclinical Research and Development. "In addition, an inhibitor of smooth muscle myosin has the potential to define a new mechanistic approach to address serious diseases in an established therapeutic class, namely smooth muscle relaxants. We are looking forward to advancing this compound in development as well."

"The advancement of these first-in-class compounds in development underscores the continued innovation, tractability and capital-efficiency of our muscle-biology-focused research activities," stated Robert I. Blum, Cytokinetics' President and CEO. "We believe that expansion of our portfolio of development compounds provides our company with growth opportunities within a broad range of therapeutic areas and that we are nicely positioned to progress our clinical stage drug candidates, as well as these additional novel mechanism compounds, through important value-enhancing milestones in 2009."

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, 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, CK-1827452, now in Phase II clinical development as a potential treatment for heart failure. 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 aging patients.

Background on Smooth Muscle Inhibitors

Smooth muscle contractility is driven by the motor protein smooth muscle myosin. A mechanochemical enzyme, smooth muscle myosin is the cytoskeletal motor that is directly responsible for converting chemical energy into mechanical force. Cytokinetics' smooth muscle contractility program is focused to the discovery and development of small molecule smooth muscle myosin inhibitors and leverages Cytokinetics' expertise in muscle function and its application to drug discovery. This expertise has resulted in the discovery and development of compounds that modulate the function of the two other muscle types, cardiac and skeletal muscle. Inhaled smooth muscle myosin inhibitors have demonstrated pharmacological activity in preclinical models of bronchoconstriction and pulmonary vascular constriction and may have application in diseases such as pulmonary hypertension, asthma and COPD. Systemic administration of smooth muscle myosin inhibitors, either orally or intravenously, has demonstrated pharmacological activity in preclinical models of systemic vascular constriction and may have application in systemic hypertension. Compounds which exhibit this

mechanism of action may lead to new therapeutic options in a variety of diseases where there still exists unmet clinical need and where, in some instances, people still suffer life-threatening complications.

About Cytokinetics

Cytokinetics is a biopharmaceutical company focused on the discovery, development and commercialization of novel small molecule drugs that may address areas of significant unmet clinical needs. Cytokinetics' cardiovascular disease program is focused to cardiac myosin, a motor protein essential to cardiac muscle contraction. Cytokinetics' lead compound from this program, CK-1827452, a novel small molecule cardiac myosin activator, entered Phase II clinical trials for the treatment of heart failure in 2007. Under a strategic alliance established in 2006, Cytokinetics and Amgen Inc. are performing joint research focused on identifying and characterizing activators of cardiac myosin as back-up and follow-on potential drug candidates to CK-1827452. Amgen has obtained an option for an exclusive license to develop and commercialize CK-1827452, subject to Cytokinetics' development and commercial 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 skeletal muscle weakness associated with neuromuscular diseases or other conditions. 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 bronchoconstriction and vasoconstriction.

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, a mitotic kinesin. In addition, Cytokinetics and GlaxoSmithKline are conducting research and development activities focused on GSK-923295, an inhibitor of centromere-associated protein E (CENP-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 planned studies, the timing and occurrence of IND filings and the utility of backup compounds in mitigating development risk; the potential benefits of Cytokinetics' compounds, including the potential utility and therapeutic role of skeletal sarcomere activators and smooth muscle inhibitors and the potential opportunities provided by the addition of new development compounds to Cytokinetics' portfolio; and the enabling capabilities of Cytokinetics' cytoskeletal focus. 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' compounds 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' compounds 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 may elect not to exercise its option with respect to CK-1827452; Cytokinetics may incur unanticipated research and development and other costs or be unable to obtain additional financing necessary to conduct development of its products; standards of care may change rendering Cytokinetics' compounds obsolete; others may introduce products or alternative therapies for the treatment of indications Cytokinetics' compounds may target; and risks and uncertainties relating to the timing and receipt of payments from its partners, including option fees, 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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