Cytokinetics Announces Late Breaking Trials Presentation Relating to CK-1827452 at the 2008 Heart Failure Congress of the European Society of Cardiology

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Novel Cardiac Myosin Activator Demonstrates Clinically Relevant and Statistically Significant Increases in Indices of Ventricular Function; Investor Lunch and Webcast Scheduled for Today

SOUTH SAN FRANCISCO, CA, Jun 16, 2008 (MARKET WIRE via COMTEX News Network) -- Cytokinetics, Incorporated (NASDAQ: CYTK) announced positive results today from an interim analysis of an ongoing Phase IIa clinical trial evaluating CK-1827452, a novel cardiac myosin activator, administered intravenously to patients with stable heart failure. These results were presented at the Late Breaking Trials Session at the Heart Failure Congress, the annual meeting of the Heart Failure Association of the European Society of Cardiology in Milan, Italy. A presentation entitled, "The Selective Cardiac Myosin Activator, CK-1827452, Increases Systolic Function in Heart Failure," was made by John Cleland, MD, FACC, FRCP, FESC, Professor of Cardiology, Castle Hill Hospital, University of Hull, United Kingdom. CK-1827452 is being developed as a potential treatment for patients with either acutely decompensated or chronic heart failure. CK-1827452 is being developed in connection with a strategic alliance between Cytokinetics and Amgen.

Interim Clinical Trial Results

This presentation highlighted data from an interim analysis of an ongoing Phase IIa clinical trial designed to evaluate CK-1827452 in patients with stable heart failure. At the time of the analysis, 22 patients had been evaluated in this clinical trial (i.e., 8 patients from each of the completed Cohorts 1 and 2, and 6 patients from the ongoing Cohort 3). The safety data from this analysis suggest that CK-1827452 was well-tolerated with no serious adverse events reported in heart failure patients exposed to the intended range of doses and plasma concentrations. A pharmacodynamic-pharmacokinetic analysis of data from these 22 patients showed that when compared to placebo, CK-1827452 produced statistically significant and clinically relevant increases in Doppler-derived stroke volume and fractional shortening as a consequence of statistically significant prolongations of systolic ejection time. At the highest CK-1827452 concentrations studied, stroke volume, the volume of blood pumped during each heartbeat, increased versus placebo from its mean baseline value of 71 mL by 19 +/- 4 mL (p 0.0001). In addition, fractional shortening increased versus placebo by 4.0 +/- 2% (p = 0.01), and systolic ejection time by 95 +/- 9 msec (p 0.0001).

"CK-1827452 is the first of a new class of agents with a novel mechanism of action," stated Dr. Cleland. "Heart failure is often characterized by a reduction in stroke volume. Conventional inotropic agents increase the force and velocity of ventricular contraction, which increases stroke volume but with a parallel increase in energy expenditure that may exhaust the heart and worsen long-term outcomes. Heart failure, however, is also characterized by short left ventricular ejection times, so another approach to increasing stroke volume would be to increase the duration of the heart's contraction. This is the first drug to increase the duration but not the velocity of contraction. This unique mechanism of action increases stroke volume without an increase in energy expenditure and holds great promise for the treatment of heart failure."

In this interim analysis, statistically significant correlations were observed between the increases in the three indices of cardiac ventricular function and increases in the plasma concentration of CK-1827452 (p 0.01 for each). Doppler-derived systolic ejection time and stroke volume measured during the second hour of infusion were the most sensitive indicators of effect. Left ventricular ejection fraction, a measurement with high variability in patients with ventricular disease, also generally increased with increasing plasma concentrations; however, this increase in left ventricular systolic function did not reach statistical significance in the current dataset. Across the range of plasma concentrations evaluated, the pharmacokinetics of CK-1827452 were generally linear with respect to dose and similar to those observed in the healthy volunteers in the first-time-in-humans Phase I trial of CK-1827452. Heart rate declined slightly at higher concentrations and there were no dose-related changes in blood pressure in this interim analysis.

"These data significantly expand our understanding of the pharmacodynamic and pharmacokinetic profile of CK-1827452," stated Andrew A. Wolff, MD, FACC, Cytokinetics' Senior Vice President of Clinical Research and Development and Chief Medical Officer. "They provide important support to our ongoing and planned Phase IIa clinical trials that will further evaluate CK-1827452 in other heart failure patient populations."

Phase IIa Clinical Trial Design

This Phase IIa clinical trial is a multi-center, double-blind, randomized, placebo-controlled, dose-escalation, pharmacokinetic and pharmacodynamic trial of CK-1827452 in patients with stable heart failure. The primary objective of this trial is to evaluate the safety and tolerability of CK-1827452 administered as an intravenous infusion to stable heart failure patients. The secondary objectives of this trial are to establish a relationship between the plasma concentration and pharmacodynamic effects of CK-1827452 and to determine the pharmacokinetics of CK-1827452 in stable heart failure patients. In addition to routine assessments of vital signs, blood sampling for CK-1827452 levels, and electrocardiographic monitoring, echocardiograms are performed to evaluate cardiac function at various pre-defined time points before, during and after the infusion of CK-1827452.

In this trial, CK-1827452 is administered as an intravenous infusion to cohorts of eight patients each. In each cohort, patients undergo four treatment periods, receiving three escalating active doses of CK-1827452 and one placebo treatment randomized into the dose escalation sequence to maintain blinding. Patients receive a loading infusion to rapidly achieve a target plasma concentration of CK-1827452 during the first hour, followed by a slower one-hour infusion intended to maintain that plasma concentration during the remainder of the infusion. The first two of these cohorts are designed to study a range of target CK-1827452 plasma concentrations, from 90 ng/ml in the lowest dose regimen in Cohort 1 to 650 ng/ml in the highest dose regimen in Cohort 2; Cohort 3 is designed to gain experience across the same range plasma of concentrations, but with infusions of a longer duration.

In the first two cohorts, the second, slower, maintenance infusion was continued for 1 hour; in the third cohort, the maintenance infusion is continued for 23 hours. Following review of safety data from this interim analysis, Cytokinetics has opened enrollment in a fourth cohort in this ongoing trial. This cohort will also evaluate a one-hour loading infusion followed by 23 hours of maintenance infusions over the same range of target CK-1827452 plasma concentrations evaluated in Cohort 3.

Cytokinetics Investor Lunch and Webcast

Cytokinetics plans to host an Investor Lunch entitled "Interim Results of a Phase IIa Clinical Trial of CK-187452 in Stable Heart Failure Patients" today from 1:00 p.m. - 2:00 p.m. Milan Time/ 7:00 a.m. - 8:00 a.m. Eastern Time. The event will be held in the White 1 Room on Level 2 at the Milano Convention Center, Milan, Italy. At this meeting, Robert Blum, Cytokinetics' President and Chief Executive Officer, will join Drs. Wolff and Cleland as well as John J.V. McMurray, MD, FACC, FRCP, FESC, Professor of Medical Cardiology at the University of Glasgow in Glasgow, Scotland, United Kingdom, in a panel discussion. Mr. Blum will moderate the session. Dr. Wolff will review the Phase IIa clinical trial design. Dr. Cleland will review the interim results from this trial and Dr. McMurray will offer additional perspective on the clinical relevance of these data and the potential of CK-1827452 in the treatment of heart failure patients.

The presentation and accompanying slides will be simultaneously webcast beginning at 7:00 a.m. Eastern Time and can be accessed through the Investor Relations section of the Cytokinetics' website at www.cytokinetics.com. The live audio of the forum will also be accessible via telephone to investors, members of the news media and the general public by dialing either (866) 999-CYTK (2985) (United States and Canada) or (706) 679-3078 (International) and typing in the passcode 50722133.

An archived replay of the webcast will be available on the Presentations page in the Investor Relations section of Cytokinetics' website until July 18, 2008. The replay will also be available via telephone from June 16, 2008 at 10:00 a.m. Eastern Time until June 23, 2008 by dialing (800) 642-1687 (United States and Canada) or (706) 645-9291 (International) and typing in the passcode 50722133.

Development Status of CK-1827452

CK-1827452 is currently the subject of a clinical trials program comprised of multiple Phase I and Phase IIa trials. In addition to the ongoing Phase IIa trial of CK-1827452 in patients with stable heart failure, Cytokinetics has initiated a Phase IIa clinical trial designed to evaluate the safety and tolerability of an intravenous and an oral formulation of CK-1827452 in patients with ischemic cardiomyopathy. Cytokinetics has also opened enrollment in a third Phase IIa clinical trial designed to evaluate an intravenous form of CK-1827452 in stable heart failure patients undergoing cardiac catheterization.

Cytokinetics has conducted five Phase I clinical trials of CK-1827452 in healthy subjects: the first-time-in-humans study evaluating an intravenous formulation, an oral bioavailability study using both intravenous and oral formulations, and three studies of oral formulations: a drug-drug interaction study, a dose proportionality study, and a study evaluating modified-release formulations. Data from each of these trials have been reported previously.

Background on Amgen Collaboration

In January 2007, Cytokinetics and Amgen announced a strategic collaboration to discover, develop and commercialize novel small-molecule therapeutics that activate cardiac muscle contractility for potential applications in the treatment of heart failure. In addition, Amgen obtained an option to receive an exclusive license to develop and commercialize Cytokinetics' lead drug candidate from its cardiovascular disease program, CK-1827452, and other drug candidates arising from the collaboration, subject to Cytokinetics' development and commercial participation rights. The option is for worldwide license rights, excluding Japan. Under the agreement, Cytokinetics received approximately $75 million, comprised of a non-refundable up-front license and technology access fee of $42 million and equity investment of approximately $33 million.

Research activities under the collaboration are focused on identifying and characterizing activators of cardiac myosin as back-up and follow-on potential drug candidates to CK-1827452. During the initial two-year research term, in addition to performing research at its own expense under the collaboration, Cytokinetics will continue to conduct all development activities for CK-1827452, at its own expense, subject to Amgen's option and according to an agreed development plan. Amgen's option is exercisable during a defined period, the ending of which is dependent upon the satisfaction of certain conditions, primarily the delivery of Phase I and Phase IIa clinical trials data for CK-1827452 in accordance with an agreed plan sufficient to support its progression into Phase IIb clinical development. To exercise its option, Amgen would pay a non-refundable exercise fee of $50 million and thereafter would be responsible for development and commercialization of CK-1827452 and related compounds, subject to Cytokinetics' development and commercial participation rights. In addition, Cytokinetics may be eligible to receive pre-commercialization and commercialization milestone payments of up to $600 million on CK-1827452 and other products arising from the research, as well as escalating royalties. Cytokinetics also has the opportunity to earn increased royalties by participating in Phase III development costs. In that case, Cytokinetics could co-promote products in North America and would be expected to play a significant role in the agreed commercial activities. If Amgen elects not to exercise its option on CK-1827452, Cytokinetics may then proceed to independently develop CK-1827452 and the research collaboration would terminate.

Background on the Heart Failure Market

Heart failure is a widespread and debilitating syndrome affecting millions of people in the United States. The high and rapidly growing prevalence of heart failure translates into significant hospitalization rates and associated societal costs. In 2004, over 5 million patients carried a diagnosis of chronic heart failure in the United States. Many of these patients with chronic heart failure suffer acute episodes. The number of diagnosed events of acute heart failure was over 4 million in 2004. These numbers are increasing due to the aging population and an increased likelihood of survival after acute myocardial infarction. The costs to society and the individual attributable to the prevalence of heart failure are high. The estimated annual direct and indirect costs of heart failure on the nation's health care system are estimated to be $35 billion in 2008. A portion of that cost comes from heart failure drugs used to treat both chronic and acute heart failure. Sales of drugs to treat heart failure reached over $1.6 billion in 2004, including $1.3 billion for chronic heart failure and $0.3 billion for acute heart failure. Despite currently available therapies, readmission rates for patients remain as high as high as 42% within one year of hospital discharge and mortality rates are approximately 60% over the five-year period following a diagnosis of chronic heart failure. The limited effectiveness of current therapies points to the need for next-generation therapeutics that may offer improved efficacy without increased adverse events.

Background on Cardiac Myosin Activators and Cardiac Contractility

Cardiac myosin is the cytoskeletal motor protein in the cardiac muscle cell that is directly responsible for converting chemical energy into the mechanical force resulting in cardiac contraction. Cardiac contractility is driven by the cardiac sarcomere, a highly ordered cytoskeletal structure composed of cardiac myosin, actin and a set of regulatory proteins, and is the fundamental unit of muscle contraction in the heart. The sarcomere represents one of the most thoroughly characterized protein machines in human biology. Cytokinetics' cardiovascular program is focused towards the discovery and development of small molecule cardiac myosin activators in order to create next-generation treatments to manage acute and chronic heart failure. Cytokinetics' program is based on the hypothesis that activators of cardiac myosin may address certain mechanistic liabilities of existing positive inotropic agents by increasing cardiac contractility without increasing intracellular calcium. Current inotropic agents, such as beta-adrenergic receptor agonists or inhibitors of phosphodiesterase activity, increase cardiac cell contractility by increasing the concentration of intracellular calcium,

which further activates the cardiac sarcomere. This effect on calcium levels, however, also has been linked to potentially life-threatening side effects. The inotropic mechanism of current drugs also increases the velocity of cardiac contraction and shortens systolic ejection time. In contrast, cardiac myosin activators have been shown to work in the absence of changes in intracellular calcium by a novel mechanism that directly stimulates the activity of the cardiac myosin motor protein. Cardiac myosin activators accelerate the rate-limiting step of the myosin enzymatic cycle and shift the enzymatic cycle in favor of the force-producing state. This mechanism of action results not in an increase in the velocity of cardiac contraction, but instead, in a lengthening of the systolic ejection time, which results in increased cardiac contractility and cardiac output in a potentially more oxygen-efficient manner.

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' development activities are primarily directed to advancing multiple drug candidates through clinical trials with the objective of determining the intended pharmacodynamic effect or effects in two principal diseases: heart failure and cancer. 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. Cytokinetics' cancer program is focused on mitotic kinesins, a family of motor proteins essential to cell division. Under a strategic alliance established in 2001, Cytokinetics and GlaxoSmithKline (GSK) are conducting research and development activities focused on the potential treatment of cancer. Cytokinetics is developing two novel drug candidates that have arisen from this program, ispinesib and SB-743921, each a novel inhibitor of kinesin spindle protein (KSP), a mitotic kinesin. Cytokinetics believes clinical activity for ispinesib has been observed in Phase II monotherapy clinical trials in breast cancer, ovarian cancer and non-small cell lung cancer and recently initiated an additional Phase I/II clinical trial of ispinesib as monotherapy as a first-line treatment in chemotherapy-naive patients with locally advanced or metastatic breast cancer on a more dose-dense schedule than previously studied. Cytokinetics is also conducting a Phase I/II trial of SB-743921 on a similar more dose-dense schedule in non-Hodgkin and Hodgkin lymphomas. GSK has obtained an option for the joint development and commercialization of ispinesib and SB-743921. Cytokinetics and GSK are conducting collaborative research activities directed to the mitotic kinesin centromere-associated protein E (CENP-E). GSK-923295, a CENP-E inhibitor, is being developed under the strategic alliance by GSK, subject to Cytokinetics' option to co-fund certain later-stage development activities and to co-promote any resulting approved drug in North America. GSK began a Phase I clinical trial with GSK-923295 in 2007. In April 2008, Cytokinetics announced the selection of a potential drug candidate directed towards skeletal muscle contractility which may be developed as a potential treatment for skeletal muscle weakness associated with neuromuscular diseases or other conditions. 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. Cytokinetics' focus on the cytoskeleton enables it to develop novel and potentially safer and more effective classes of drugs directed at treatments for cancer and cardiovascular and other diseases. 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 Safe Harbor for forward-looking statements contained in the Act. Examples of such statements include, but are not limited to, statements relating to Cytokinetics' and its partners' research and development programs, including the design, conduct and results of clinical trials and planned presentations relating to clinical trials; the size and growth of potential markets for drug candidates arising out of Cytokinetics' heart failure program, including for CK-1827452; the properties and potential benefits of CK-1827452 and Cytokinetics' other drug candidates and potential drug candidates; the enabling capabilities of Cytokinetics' cytoskeletal focus; and Cytokinetics' potential receipt of funds and anticipated role in development and commercialization activities under its collaboration and option agreement with Amgen. 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 or production of CK-1827452 or Cytokinetics' other drug candidates that could slow or prevent clinical development, 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 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; GSK may decide to postpone or discontinue development activities for GSK-923295, 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, others may introduce products or alternative therapies 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 our 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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