CYTOKINETICS

CYTOKINETICS ANNOUNCES OPENING OF BENEFIT-ALS, A PHASE IIB CLINICAL TRIAL OF *TIRAMSEMTIV* (CK-2017357) IN PATIENTS WITH AMYOTROPHIC LATERAL SCLEROSIS

BENEFIT-ALS Will Evaluate Longer Term Effects of Novel Skeletal Muscle Activator and Represents a Key Step Forward Towards Potential Registration

South San Francisco, CA, October 29, 2012 – Cytokinetics, Incorporated (Nasdaq: CYTK) announced that the company has opened BENEFIT-ALS (**B**linded **E**valuation of **N**euromusclar **E**ffects and **F**unctional **I**mprovement with ***T****irasemtiv* in **ALS**), formerly known as CY 4026, to enrollment. BENEFIT-ALS is a Phase IIb, multi-national, double-blind, randomized, placebo-controlled, clinical trial designed to evaluate the safety, tolerability and potential efficacy of *tirasemtiv* (formerly CK-2017357) in patients with amyotrophic lateral sclerosis (ALS). *Tirasemtiv* selectively activates the fast skeletal muscle troponin complex by increasing its sensitivity to calcium, which increases skeletal muscle force in response to neuronal input and delays the onset and reduces the degree of muscle fatigue. *Tirasemtiv* is the lead drug candidate that has emerged from the company's skeletal muscle contractility program.

"Patients who suffer from this devastating disease are in critical need of a novel therapy that addresses the functional deficits that limit their activities of daily living," stated Jeremy M. Shefner, MD, PhD, Professor and Chair of the Department of Neurology at the Upstate Medical University at the State University of New York and Principal Investigator of BENEFIT-ALS. "If successful, this novel mechanism therapy could improve the lives of many patients living with ALS."

BENEFIT-ALS is designed to enroll approximately 400 patients who will first complete one week of treatment with open-label *tirasemtiv* at 125 mg twice daily. Following completion of the open-label period, patients will be randomized to receive 12 weeks of double-blind treatment with twice-daily oral ascending doses of *tirasemtiv* beginning at 125 mg twice daily and increasing weekly up to 250 mg twice daily or a dummy dose titration with placebo. Clinical assessments will take place monthly during the course of treatment; patients will also participate in follow-up evaluations one and four weeks after their final dose.

The primary efficacy analysis of BENEFIT-ALS will compare the mean change from baseline in the ALS Functional Rating Scale in its revised form (ALSFRS-R) on *tirasemtiv* versus placebo. Secondary endpoints will include Maximum Voluntary Ventilation (MVV) and other measures of respiratory and skeletal muscle function. Patients taking *riluzole* at the time of enrollment and who are randomized to receive *tirasemtiv* will receive *riluzole* at a reduced dose of 50 mg daily. Cytokinetics plans to conduct this trial at over 70 sites across the United States, Canada, and several European countries.

"We are pleased to open BENEFIT-ALS to enrollment to further evaluate *tirasemtiv* in patients with ALS. The 12 weeks of double-blind treatment in this trial will be the longest time that any ALS patients have been treated with *tirasemtiv;* consequently, BENEFIT-ALS will be a critical step forward in our assessment of the potential for this treatment as a chronic therapy," stated Andrew A. Wolff, MD, FACC, Cytokinetics' Senior Vice President of Clinical Research and Development and Chief Medical Officer. "Based on feedback from health regulatory authorities in the United States, Canada and the European Union, we believe that BENEFIT-ALS may support the potential registration of *tirasemtiv* for the treatment of ALS."

Development Status of *Tirasemtiv*

Tirasemtiv (formerly CK-2017357) is currently the subject of a Phase II clinical trials development program and has been granted orphan drug designation and fast track status by the United States Food and Drug Administration and orphan medicinal product designation by the European Medicines Agency for the potential treatment of ALS.

Data from two completed randomized, double-blind, placebo-controlled, multiple-dose, Phase II clinical trials were presented at the April 2012 American Academy of Neurology Annual Meeting. In one of these trials, *tirasemtiv* appeared to be generally safe and well-tolerated when dosed daily for two weeks at 125 mg, 250 mg, or 375 mg, first in a cohort of patients not receiving *riluzole*, and then in a cohort of patients receiving *riluzole* at a reduced dose of 50 mg daily. Adverse events and clinical assessments during treatment with *tirasemtiv* appeared similar, with or without co-administration of *riluzole*. While the trial was not designed or powered to evaluate statistically the effects of *tirasemtiv* on the various outcome measures that were assessed during the study, a combined analysis of patients from two separate cohorts suggested encouraging trends in the ALSFRS-R and in MVV that appeared dose-related and potentially clinically meaningful in magnitude. In the other Phase II clinical trial, a twice-daily dose titration regimen of *tirasemtiv* also appeared to be generally safe and well-tolerated. The majority of patients in this trial were titrated successfully to a *tirasemtiv* dose level of 250 mg twice daily. While this trial also was not designed or powered to evaluate statistically the effects of *tirasemtiv* on the various outcome measures that were assessed during the study, increases were observed in ALSFRS-R that were similar in direction, and in MVV that were similar in direction and magnitude, to those observed in the aforementioned trial. In addition, in December 2010, data from a Phase IIa clinical trial evaluating single doses of *tirasemtiv* were presented at the 21st International Symposium on ALS and Motor Neurone Diseases. In all three of these Phase II clinical trials, *tirasemtiv* appeared to be safe and well-tolerated, and demonstrated encouraging trends to improvement in patients' functional abilities, and in measures of respiratory and skeletal muscle strength and endurance.

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*, a skeletal muscle activator, as a potential treatment for diseases and 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 plans for and the timing, initiation, conduct, size, design and results of clinical trials for tirasemtiv (CK-2017357); the significance and utility of clinical trial results for tirasemtiv, including the ability of the BENEFIT-ALS trial to support registration of tirasemtiv; and the properties and potential benefits of tirasemtiv and Cytokinetics' other drug candidates and potential drug candidates, including tirasemtiv's potential utility in the treatment of patients with amyotrophic lateral sclerosis (ALS). 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 will require significant additional funding to conduct a registration program for tirasemtiv for the potential treatment of ALS and 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 (FDA) or foreign regulatory agencies may delay or limit Cytokinetics' or its partners' ability to conduct clinical trials, regulatory authorities may not grant tirasemtiv orphan drug exclusivity in ALS even if it is approved for marketing; Amgen's decisions with respect to the

design, initiation, conduct, timing and continuation of development activities for omecamtiv mecarbil; Cytokinetics may be unable to obtain or maintain patent or trade secret protection for its intellectual property; Cytokinetics may incur unanticipated research and development and other costs; 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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