# Cytokinetics and Astellas Announce Expansion of Collaboration for Development of CK-2127107 in Spinal Muscular Atrophy and Other Neuromuscular Indications

December 23, 2014 12:30 PM EST

***Cytokinetics Expects to Receive Over $75 Million in Committed Capital and Reimbursements For Planned Activities***

***Companies Plan to Initiate Phase II Clinical Trial in 2015***

***South San Francisco, CA, and Tokyo, December 23, 2014 -*** Cytokinetics, Incorporated (NASDAQ:CYTK) and Astellas Pharma Inc. (Tokyo Stock Exchange: 4503, "Astellas") announced today an amendment to their collaboration agreement focused on the research, development and commercialization of skeletal muscle activators. The companies have been jointly conducting research and development activities with the objective to advance novel skeletal sarcomere targeted therapies for diseases and medical conditions associated with muscle weakness in non-neuromuscular indications. The collaboration has been expanded to enable development of CK-2127107, a fast skeletal troponin activator, in Spinal Muscular Atrophy (SMA) and potentially other neuromuscular indications. As the companies have agreed, Cytokinetics will conduct a Phase II clinical trial of CK-2127107 in patients with SMA, which is planned to begin in 2015. Cytokinetics and Astellas will jointly develop and may jointly commercialize CK-2127107 and other fast skeletal troponin activators in neuromuscular indications. The companies have extended their joint research program focused on the discovery of additional skeletal sarcomere activators through 2016.

Upon execution of the amended agreement, Cytokinetics will receive $55 million from Astellas comprising $30 million as an upfront license fee, $10 million paid for Astellas' purchase of Cytokinetics' common stock and $15 million in a milestone payment in connection with the decision made by Astellas to advance CK-2127107 into Phase II clinical development. In addition, Cytokinetics expects to receive potentially over $20 million payable by Astellas to reimburse Cytokinetics for planned research and development expenses over the next 2 years. Under the amended agreement, Cytokinetics is eligible to receive over $600 million in pre-commercialization and commercialization milestone payments, of which over $100 million is payable for CK-2127107 in each of SMA and other neuromuscular indications. The agreed terms also provide for escalating royalties to Cytokinetics with increased sales. Cytokinetics retains the option to co-fund the development of CK-2127107 in SMA and other neuromuscular indications in exchange for increased milestone payments and royalties and, if Cytokinetics exercises its co-promotion option, Astellas will reimburse Cytokinetics for certain expenses associated with its promotion activities.

"We are pleased to expand our collaboration with Astellas to enable the joint pursuit of CK-2127107 in SMA and other potential neuromuscular indications as well as the indications which were the initial focus of our collaboration," stated Robert I. Blum, Cytokinetics' President and Chief Executive Officer. "We are impressed with Astellas' strategic vision for skeletal muscle activators and look forward to increasing the scope of our activities to prioritize the treatment of neuromuscular diseases that may benefit from our novel mechanism approach to increased muscle function and time to muscle fatigue."

"We are excited to expand our collaboration with Cytokinetics and to advance this drug candidate into Phase II," stated Yoshihiko Hatanaka, Astellas' President and Chief Executive Officer. "We are encouraged by the result of the completed Phase I studies for CK-2127107 and are hopeful for the future of this new frontier of muscle biology. The expansion of our alliance is a testament to our productive collaboration together and illustrates the broad potential that we envision for this program."

**Expanded Scope of Collaboration**

Cytokinetics and Astellas entered into collaboration in 2013. Cytokinetics exclusively licensed to Astellas the rights to co-develop and commercialize CK-2127107, a fast skeletal troponin activator drug candidate, for potential application in non-neuromuscular indications under the collaboration agreement. In accordance with the initial scope of the collaboration, Cytokinetics completed Phase I clinical development activities and other Phase II readiness activities. In connection with the expanded collaboration, the companies have agreed to advance CK-2127107 into Phase II clinical development initially in SMA. The development program may include other neuromuscular indications as the companies may agree in the future. In connection with the expanded collaboration, Cytokinetics and Astellas have also agreed to extend their joint research program through 2016. Under the amended collaboration, Astellas has exclusive rights to co-develop and commercialize CK-2127107 and other fast skeletal troponin activators in non-neuromuscular indications and certain neuromuscular indications (including SMA) and other novel mechanism skeletal muscle activators in all indications, subject to certain Cytokinetics' development and commercialization rights; Cytokinetics may co-promote and conduct certain commercial activities in North America and Europe under agreed scenarios. Outside the collaboration, Cytokinetics may continue to independently develop *tirasemtiv*, a fast skeletal troponin activator that recently completed a Phase II clinical trials program for the potential treatment of amyotrophic lateral sclerosis (ALS), in ALS and other neuromuscular indications subject to certain agreed limitations.

**Cytokinetics Conference Call / Webcast**

Cytokinetics will host a conference call on January 5, 2015 at 8:30 a.m. Eastern Time. The conference call will be simultaneously webcast and will be accessible in the Investor Relations section of Cytokinetics' Web site; for further information please go to www.cytokinetics.com. The live audio of the conference call is also accessible via telephone to investors, members of the news media and the general public by dialing either (866) 999-2985 (CYTK) (United States and Canada) or (706) 679-3078 (International) and typing in the passcode 52398702. An archived replay of the webcast will be available via Cytokinetics' website until February 5, 2015. The replay will also be available via telephone from January 5, 2015 at 11:30 a.m. Eastern Time until February 5, 2015 by dialing (855) 859-2056 (United States and Canada) or (404) 537-3406 (International) and typing in the passcode 52398702.

**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. In non-clinical models of Spinal Muscular Atrophy, a skeletal

muscle activator has demonstrated increases in skeletal submaximal muscle force in response to neuronal input and delays in the onset and reductions in the degree of muscle 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.

**About Spinal Muscular Atrophy**

Spinal Muscular Atrophy (SMA) is a severe neuromuscular disease that occurs in 1 in every 6,000 to 10,000 live births each year and is one of the most common fatal genetic disorders. Spinal muscular atrophy manifests in various degrees of severity as progressive muscle weakness resulting in respiratory and mobility impairment. There are four types of SMA, named for time of the initial onset of muscle weakness and related symptoms: Type I (Infantile), Type II (Intermediate), Type III (Juvenile) and Type IV (Adult onset). Life expectancy and disease severity varies by type of SMA from Type I, who have the worst prognosis and a life expectancy of no more than 2 years from birth, to the Type IV, who have a normal life span but with gradual weakness in the proximal muscles of the extremities resulting in mobility issues. Few treatment options exist for these patients, resulting in a high unmet need for new therapeutic options to address symptoms and modify disease progression.

**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 other medical conditions. Cytokinetics currently has three compounds in clinical development: *omecamtiv mecarbil* in Phase II for acute and chronic heart failure, *tirasemtiv* in Phase II for ALS and CK-2127107 progressing to Phase II in SMA. All of the company's 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.

**About Astellas**

Astellas Pharma Inc., located in Tokyo, Japan, is a pharmaceutical company dedicated to improving the health of people around the world through the provision of innovative and reliable pharmaceuticals. Astellas has approximately 18,000 employees worldwide. The organization is committed to becoming a global category leader in Urology, Immunology (including Transplantation) and Infectious diseases, Oncology, Neuroscience and DM Complications and Kidney diseases. For more information on Astellas Pharma Inc., please visit the company website at www.astellas.com/en.

**Forward-Looking Statements: Cytokinetics**

*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' and Astellas' planned research and development activities, including the expected timing, scope and conduct of a Phase II clinical trial of CK-2127107 in SMA; the significance and utility of preclinical and non-clinical study and clinical trial results; potential milestone payments, royalties and other payments; the expected roles of Cytokinetics and Astellas under the collaboration and in developing or commercializing drug candidates or products subject to the collaboration; the indications to be pursued under the collaboration; the potential size of markets for CK-2127107; Cytokinetics' continued development of tirasemtiv; and the properties and potential benefits of Cytokinetics' skeletal muscle activators, including CK-2127107. 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.*

**Forward-Looking Statements: Astellas**

*This press release includes forward-looking statements based on assumptions and beliefs in light of the information currently available to management and subject to significant risks and uncertainties. Forward-looking statements include all statements other than statements of historical fact, including plans, strategies and expectations for the future, statements regarding the expected timing of filings and approvals relating to the transaction, the expected timing of the completion of the transaction, the ability to complete the transaction or to satisfy the various closing conditions, future revenues and profitability from or growth or any assumptions underlying any of the foregoing. Statements made in the future tense, and words such as "anticipate," "expect," "project," "continue," "believe," "plan," "estimate," "pro forma," "intend," "potential," "target," "forecast," "guidance," "outlook," "seek," "assume," "will," "may," "should," and similar expressions are intended to qualify as forward-looking statements. Forward-looking statements are based on estimates and assumptions made by management that are believed to be reasonable, though they are inherently uncertain and difficult to predict. Investors and security holders are cautioned not to place undue reliance on these forward-looking statements.*

*Actual financial results may differ materially depending on a number of factors including adverse economic conditions, currency exchange rate fluctuations, adverse legislative and regulatory developments, delays in new product launch, pricing and product initiatives of competitors, the inability of the company to market existing and new products effectively, interruptions in production, infringements of the company's intellectual property rights and the adverse outcome of material litigation. This press release contains information on pharmaceuticals (including compounds under development), but this information is not intended to make any representations or advertisements regarding the efficacy or effectiveness of these pharmaceuticals nor provide medical advice of any kind.*

**Contact:**

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

*Fax: (650) 624-3010*

Astellas Pharma Inc.
*Corporate Communications*
*Tel: +81-3-3244-3201*
*Fax: +81-3-5201-7473*