Cytokinetics Announces New Results Presented at the International Symposium on ALS/MND

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Subgroup Analyses of FORTITUDE-ALS on Effects of Reldesemtiv with and without Concomitant Radicava® (edaravone) or Rilutek® (riluzole)

SOUTH SAN FRANCISCO, Calif., Dec. 05, 2019 (GLOBE NEWSWIRE) -- Cytokinetics, Incorporated (Nasdaq: CYTK) today announced that new results were presented at the 30th International Symposium on ALS/MND in Perth, Australia, including additional analyses from FORTITUDE-ALS (**F**unctional **O**utcomes in a **R**andomized **T**rial of **I**nvestigational **T**reatment with CK-2127107 to **U**nderstand **D**ecline in **E**ndpoints – in **ALS**), the Phase 2 clinical trial of *reldesemtiv* in patients with amyotrophic lateral sclerosis (ALS). Among the post-hoc analyses presented were results of subgroup analyses describing the effect of *reldesemtiv* with and without use of Radicava® (*edaravone*) and/or Rilutek® (*riluzole*) and the interaction between quality of life and depression in the placebo group. In collaboration with Astellas, Cytokinetics is developing *reldesemtiv*, a fast skeletal muscle troponin activator (FSTA), as a potential treatment for people with SMA and certain other debilitating diseases and conditions associated with skeletal muscle weakness and/or fatigue.

Effect of *Reldesemtiv:* Similar Whether or Not Patients Received *Edaravone* and/or *Riluzole*

The results of FORTITUDE-ALS, presented earlier this year at the American Academy of Neurology Annual Meeting, showed that the trial did not achieve statistical significance for a pre-specified dose-response relationship in the primary endpoint of change from baseline in slow vital capacity (SVC) after 12 weeks of dosing (p=0.11). However, patients on all dose groups of *reldesemtiv* declined numerically less than patients on placebo for SVC and ALS Functional Rating Scale-Revised (ALSFRS-R), with larger differences emerging over time. In this post-hoc subgroup analysis of all dose groups combined and compared to placebo, *reldesemtiv* demonstrated a similar effect on SVC, ALSFRS-R and muscle strength by hand held dynamometry (HHD) at 12 weeks whether or not patients were being treated with *edaravone* and/or *riluzole*. The majority of patients received *riluzole* alone (56.5%), 4.2% were receiving *edaravone* alone, and 20.6% were receiving both.

For use and non-use of *edaravone*, the treatment difference for *reldesemtiv* relative to placebo for ALSFRS-R was 1.25 points (p=0.06) and 0.77 points (p=0.06), respectively. Decline in SVC was 3.07 percentage points less on *reldesemtiv* versus placebo in patients using *edaravone* (p=0.14), and 1.21 percentage points less on *reldesemtiv* versus placebo in patients not using *edaravone* (p=0.32). HHD declined 6.94 percentage points less on *reldesemtiv* versus placebo for patients taking *edaravone* (p=0.14), and 1.31 percentage points on *reldesemtiv* versus placebo for patients not taking it (p=0.57).

For use and non-use of *riluzole*, the treatment difference for *reldesemtiv* compared to placebo for ALSFRS-R was 0.86 (p=0.03) and 0.84 (p=0.28) points, respectively. Decline in SVC was 1.64 percentage points less on *reldesemtiv* versus placebo (p=0.16) and 1.81 percentage points less on *reldesemtiv* versus placebo (p=0.46), respectively. Decline in HHD was 2.22 (p=0.36) and 4.36 (p=0.27) less on *reldesemtiv* versus placebo, respectively.

"The results from these subgroup analyses add to the growing body of evidence regarding the effects of *reldesemtiv* in patients with ALS," said Jeremy Shefner, M.D., Ph.D., Lead Investigator of FORTITUDE-ALS, Professor and Chair of Neurology at Barrow Neurological Institute, and Professor and Executive Chair of Neurology at the University of Arizona, Phoenix. "As the treatment landscape evolves in ALS, these data demonstrate how we may be able to further slow the decline of disease progression when adding new mechanism therapies like *reldesemtiv* on top of existing treatment regimens."

Decline in Quality of Life Moderately Associated with Depression in Placebo Patients

In FORTITUDE-ALS, patients completed measurements of quality of life (QoL) and depression at screening, Day 1, Weeks 2, 4, 8, 12, and at follow-up, 4 weeks after the last dose of double-blind study drug. Patients completed the ALSAQ-5, a QoL instrument heavily weighted to function, which asks about the difficulty of standing, using arms, eating, speaking, and the feeling of hopelessness about the future, where higher scores represent worse QoL. Patients also completed the Beck Depression Inventory Fast Screen (BDI-FS), a scale in which patients choose the most accurate of four statements for seven topics including hopelessness and suicidal thoughts, where higher scores represent worsening depression. Results from 115 placebo patients were analyzed. Mean ALSAQ-5 and BDI-FS scores increased over time and were moderately correlated over time with an overall Spearman correlation coefficient of 0.54 ($p < 0.0001$), suggesting that as QoL declines in patients with ALS, depression worsens. Age, sex and site of onset were not related to change in depression, but depression scores increased at a slower pace in placebo patients using *edaravone*.

About ALS

Amyotrophic lateral sclerosis (ALS) is a progressive neurodegenerative disease that afflicts approximately 20,000 people in the United States and a comparable number of patients in Europe. Approximately 5,000 new cases of ALS are diagnosed each year in the United States. The average life expectancy of an ALS patient is approximately three to five years after diagnosis and only approximately 10 percent of patients survive for more than 10 years. Death is usually due to respiratory failure because of diminished strength in the skeletal muscles responsible for breathing. Few treatment options exist for these patients, resulting in a high unmet need for new therapies to address functional deficits and disease progression.

About Cytokinetics and Astellas Collaboration

In 2013, Cytokinetics and Astellas formed a partnership focused on the research, development, and potential commercialization of skeletal muscle activators. The primary objective of the collaboration is to advance novel therapies for diseases and medical conditions associated with muscle impairment and weakness. Cytokinetics initially exclusively licensed to Astellas rights to co-develop and potentially co-commercialize *reldesemtiv* and other FSTAs in non-neuromuscular indications and to develop and commercialize other novel mechanism, skeletal muscle activators in all indications. Under the agreement as subsequently expanded and amended, Astellas also has exclusive rights to co-develop and commercialize *reldesemtiv* and other FSTAs in certain neuromuscular indications (including SMA and ALS). Cytokinetics has certain development and commercialization rights, including the right to co-promote FSTAs for neuromuscular indications in the U.S., Canada and Europe and to co-promote the other collaboration products in the U.S. and Canada.

About Cytokinetics

Cytokinetics is a late-stage biopharmaceutical company focused on discovering, developing and commercializing first-in-class muscle activators and next-in-class muscle inhibitors as potential treatments for debilitating diseases in which muscle performance is compromised and/or declining. As a leader in muscle biology and the mechanics of muscle performance, the company is developing small molecule drug candidates specifically engineered to impact muscle function and contractility. Cytokinetics is collaborating with Amgen Inc. (Amgen) to develop *omecamtiv mecarbil*, a novel cardiac muscle activator. *Omecamtiv mecarbil* is the subject of an international clinical trials program in patients with heart failure including GALACTIC-HF and METEORIC-HF. Amgen holds an exclusive worldwide license to develop and commercialize *omecamtiv mecarbil* with a sublicense held by Servier for commercialization in Europe and certain other countries. Cytokinetics is collaborating with Astellas Pharma Inc. (Astellas) to develop *reldesemtiv*, a fast skeletal muscle troponin activator (FSTA). Astellas holds an exclusive worldwide license to develop and commercialize *reldesemtiv*. Licenses held by Amgen and Astellas are subject to specified co-development and co-commercialization rights of Cytokinetics. Cytokinetics is also developing CK-274, a novel cardiac myosin inhibitor that company scientists discovered independent of its collaborations, for the potential treatment of hypertrophic cardiomyopathies. Cytokinetics continues its over 20-year history of pioneering innovation in muscle biology and related pharmacology focused to diseases of muscle dysfunction and conditions of muscle weakness.

For additional information about Cytokinetics, visit www.cytokinetics.com and follow us on Twitter, LinkedIn, Facebook and YouTube.

Forward-Looking Statements

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 the potential benefits of *reldesemtiv*; Cytokinetics' continued evaluation of *reldesemtiv* as a treatment for patients with ALS; and the properties and potential benefits of Cytokinetics' other 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 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; Astellas' decisions with respect to the design, initiation, conduct, timing and continuation of development activities for *reldesemtiv*; 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' 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.

Contact:
Cytokinetics
Diane Weiser
Vice President, Corporate Communications, Investor Relations
(415) 290-7757

Cytokinetics

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