



Calithera Biosciences Initiates a Randomized Phase 2 Combination Trial of CB-839 in Patients with Renal Cell Carcinoma

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SOUTH SAN FRANCISCO, Calif., Aug. 07, 2017 (GLOBE NEWSWIRE) -- Calithera Biosciences, Inc. (Nasdaq:CALA), a clinical-stage pharmaceutical company focused on discovering and developing novel small molecule drugs directed against tumor metabolism and tumor immunology targets for the treatment of cancer, today announced the initiation of a randomized Phase 2 trial of CB-839, the company's glutaminase inhibitor, combined with AFINITOR® (everolimus)¹ in patients with clear cell renal cell carcinoma.

"Despite the advances in the treatment of renal cell carcinoma, there remains significant unmet need for patients who have progressed following treatment with an anti-PD1 and/or tyrosine kinase inhibitors," said Susan Molineaux, PhD, President and Chief Executive Officer of Calithera. "The initiation of this study marks an important milestone for our company, as it is the first randomized trial of CB-839 that we believe has the potential for U.S Food and Drug Administration (FDA) registration and approval. In recognition of the lack of treatment options available to patients with renal cell carcinoma, the FDA has granted Fast Track Designation to CB-839 in this setting."

The randomized, double-blind, placebo controlled trial is designed to evaluate the safety and efficacy of CB-839 in combination with everolimus versus placebo with everolimus in approximately 250 patients with metastatic, clear cell renal cell carcinoma (RCC) patients who have been treated with at least two prior lines of systemic therapy including a VEGFR-targeting tyrosine kinase inhibitor and at least one of either CABOMETYX™ (cabozantinib) or an active PD-1/PD-L1 inhibitor. Patients will be randomized in a 2:1 ratio. The primary endpoint is progression free survival assessed by an independent review committee; overall survival will be assessed as a secondary endpoint. The multicenter, international study will be conducted at multiple sites in the United States, Europe and Canada. Clinical trial sites have been activated and the study is open for enrollment. For a listing of clinical sites and additional details about the clinical trial, please see www.clinicaltrials.gov (NCT03163667).

CB-839 takes advantage of the pronounced dependency many cancers have on the nutrient glutamine for growth and survival. CB-839 inhibits glutaminase, an enzyme required by cancer cells to utilize glutamine effectively, resulting in inhibition of tumor growth. In 2017, RCC is estimated to be diagnosed in approximately 63,990 people in the United States, according to the National Cancer Institute. Clear cell is the most common form of kidney cancer, comprising 70-75% of cases. Most patients with clear cell RCC lack the tumor suppressor gene VHL, making them more dependent on glutamine due to a loss of ability to make fatty acids from glucose^{1,2,3}. Since the mTOR inhibitor everolimus impairs the use of glucose by cancer cells, the combination of CB-839 with everolimus induces dual metabolic inhibition.

About Calithera

Calithera Biosciences, Inc. is a clinical-stage pharmaceutical company focused on discovering and developing novel small molecule drugs directed against tumor metabolism and tumor immunology targets for the treatment of cancer. Calithera's lead product candidate, CB-839, is an inhibitor of glutaminase. CB-839 takes advantage of the pronounced dependency many cancers have on the nutrient glutamine for growth and survival. It is currently being evaluated in Phase 2 clinical trials in combination with standard of care agents. Calithera is also developing CB-1158, in collaboration with Incyte Corporation, an investigational immunology metabolic checkpoint inhibitor designed to target arginase, a critical immunosuppressive enzyme responsible for T-cell suppression by myeloid-derived suppressor cells (MDSCs). Arginase depletes arginine, a nutrient that is critical for the activation, growth and survival of the body's cancer-fighting immune cells, known as cytotoxic T-cells. CB-1158 is currently in a Phase I clinical trial. Calithera is headquartered in South San Francisco, California. For more information about Calithera, please visit <http://www.calithera.com/>.

Forward Looking Statements

Statements contained in this press release regarding matters that are not historical facts are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as "may," "will," "expect," "anticipate," "estimate," "intend," "poised" and similar expressions (as well as other words or expressions referencing future events, conditions, or circumstances) are intended to identify forward-looking statements. These statements include those related to the advancement of the Company's clinical trials, the review, registration and approval of CB-839 by the FDA, and the safety and efficacy of CB-839. Because such statements are subject to risks and uncertainties, actual results may differ materially from those expressed or implied by such forward-looking statements. The potential product candidates that Calithera develops may not progress through clinical development or receive required regulatory approvals within expected timelines or at all. In addition, clinical trials may not confirm any safety, potency or other product characteristics described or assumed in this press release. Such product candidates may not be beneficial to patients or successfully commercialized. The failure to meet expectations with respect to any of the foregoing matters may have a negative effect on Calithera's stock price. Additional information concerning these and other risk factors affecting Calithera's business can be found in Calithera's most recent Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission, and other periodic filings with the Securities and Exchange Commission at www.sec.gov. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, Calithera disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

¹Proc Natl Acad Sci U S A. 2011 Dec 6;108(49):19611-6. Hypoxia promotes isocitrate dehydrogenase-dependent carboxylation of α -ketoglutarate to citrate to support cell growth and viability. Wise DR, Ward PS, Shay JE, Cross JR, Gruber JJ, Sachdeva UM, Platt JM, DeMatteo RG, Simon MC, Thompson CB.

²Nature. 2011 Nov 20;481(7381):380-4. Reductive glutamine metabolism by IDH1 mediates lipogenesis under hypoxia. Metallo CM1, Gameiro PA, Bell EL, Mattaini KR, Yang J, Hiller K, Jewell CM, Johnson ZR, Irvine DJ, Guarente L, Kelleher JK, Vander Heiden MG, Iliopoulos O, Stephanopoulos G.

³Cell Metab. 2013 Mar 5;17(3):372-85. doi: 10.1016/j.cmet.2013.02.002. In vivo HIF-mediated reductive carboxylation is regulated by citrate levels and sensitizes VHL-deficient cells to glutamine deprivation. Gameiro PA1, Yang J, Metelo AM, Pérez-Carro R, Baker R, Wang Z, Arreola A, Rathmell WK, Olumi A, López-Larrubia P, Stephanopoulos G, Iliopoulos O.

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