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Cellecstar's Radiotherapeutic PDCs Demonstrate an Increased Survival Benefit Using Multiple Doses in Preclinical Studies

MADISON, Wis., April 27, 2017 (GLOBE NEWSWIRE) -- Cellecstar Biosciences, Inc. (Nasdaq:CLRB), (the "company"), an oncology-focused, clinical stage biotechnology company, today announces preclinical data that demonstrate the utility of the company's lead compound, CLR 131, and CLR 125 for use in solid tumors, as well as the potential benefits of a multi-dose treatment.

The company conducted two studies assessing a single dose and two doses with either CLR 131 or CLR 125. In the first study, mice receiving two doses of CLR 131 50uCi (day 0 and day 42) experienced mean survival of 135.6 days versus 64.6 days for mice receiving a single dose of CLR 131 50uCi in a Capan-1 xenograft model of human pancreatic adenocarcinoma. The second dose provided double the survival benefit in this challenging disease model and it is possible that additional doses could further enhance these outcomes.

The second study assessed one versus two doses of CLR 125 in a PC3 prostate cancer xenograft model. Mice receiving two doses of approximately 500uCi (day 0 and day 28) achieved survival of 161 days compared to 135 days for mice receiving a single dose of approximately 500uCi. Importantly, the mice receiving two doses had nearly double the initial disease burden (as measured by tumor volume) than the mice in the control arm of the study, which experienced 122 days of survival.

The data from both of these solid tumor animal studies indicate that multiple doses of a radiotherapeutic phospholipid-ether drug conjugate (PDC) resulted in an increased survival benefit over a single dose. The pancreatic cancer model demonstrates the potential utility of CLR 131 in solid tumors. Additionally, the prostate cancer model, combined with prior research by other laboratories, suggests that increased disease burden may impact the efficacy of a single, fixed dose of a radiotherapeutic, and that additional survival benefit could be obtained via a multi-dose treatment.

"These experiments further validate the potential utility of our PDC platform, specifically CLR 131, in the treatment of both solid and hematologic cancers," said Jim Caruso, president and CEO of Cellecstar Biosciences. "We are intrigued by the enhanced survival benefit seen with an additional dose in these studies and look forward to further exploring the effect of multiple doses in patients suffering from relapse and refractory hematologic malignancies in our ongoing Phase II clinical study."

About CLR 131

CLR 131 is an investigational compound under development for a range of hematologic malignancies. It is currently being evaluated as a single-dose treatment in a Phase I clinical

trial in patients with relapsed or refractory (R/R) multiple myeloma as well as in a Phase II clinical trial for R/R MM and select R/R lymphomas with either a one- or two-dose treatment. Based upon preclinical and interim Phase I study data, treatment with CLR 131 provides a novel approach to treating hematological diseases and may provide patients with therapeutic benefits, including overall survival, an improvement in progression-free survival, surrogate efficacy marker response rate, and overall quality of life. CLR 131 utilizes the company's patented PDC tumor targeting delivery platform to deliver a cytotoxic radioisotope, iodine-131, directly to tumor cells. The FDA has granted Collectar an orphan drug designation for CLR 131 in the treatment of multiple myeloma.

About Phospholipid Drug Conjugates (PDCs)

Collectar's product candidates are built upon its patented cancer cell-targeting delivery and retention platform of optimized phospholipid ether-drug conjugates (PDCs). The company deliberately designed its phospholipid ether (PLE) carrier platform to be coupled with a variety of payloads to facilitate both therapeutic and diagnostic applications. The basis for selective tumor targeting of our PDC compounds lies in the differences between the plasma membranes of cancer cells compared to those of normal cells. Cancer cell membranes are highly enriched in lipid rafts, which are glycolipoprotein microdomains of the plasma membrane of cells that contain high concentrations of cholesterol and sphingolipids, and serve to organize cell surface and intracellular signaling molecules. PDCs have been tested in more than 80 different xenograft models of cancer.

About Collectar Biosciences, Inc.

Collectar Biosciences is developing phospholipid drug conjugates (PDCs) designed to provide cancer targeted delivery of diverse oncologic payloads to a broad range of cancers and cancer stem cells. Collectar's PDC platform is based on the company's proprietary phospholipid ether analogs. These novel small-molecules have demonstrated highly selective uptake and retention in a broad range of cancers. Collectar's PDC pipeline includes product candidates for cancer therapy and cancer diagnostic imaging. The company's lead therapeutic PDC, CLR 131, utilizes iodine-131, a cytotoxic radioisotope, as its payload. CLR 131 is currently being evaluated under an orphan drug designated Phase I clinical study in patients with relapsed or refractory multiple myeloma. In addition, the company has initiated a Phase II clinical study to assess efficacy in a range of B-cell malignancies. The company is also developing PDCs for targeted delivery of chemotherapeutics such as paclitaxel (CLR 1602-PTX), a preclinical stage product candidate, and plans to expand its PDC chemotherapeutic pipeline through both in-house and collaborative R&D efforts. For more information please visit www.collectar.com.

This news release contains forward-looking statements. You can identify these statements by our use of words such as "may," "expect," "believe," "anticipate," "intend," "could," "estimate," "continue," "plans," or their negatives or cognates. These statements are only estimates and predictions and are subject to known and unknown risks and uncertainties that may cause actual future experience and results to differ materially from the statements made. These statements are based on our current beliefs and expectations as to such future outcomes. Drug discovery and development involve a high degree of risk. Factors that might cause such a material difference include, among others, uncertainties related to the ability to raise additional capital, uncertainties related to the ability to attract and retain partners for our technologies, the identification of lead compounds, the successful preclinical development thereof, the completion of clinical trials, the FDA review process and other

government regulation, our pharmaceutical collaborators' ability to successfully develop and commercialize drug candidates, competition from other pharmaceutical companies, product pricing and third-party reimbursement. A complete description of risks and uncertainties related to our business is contained in our periodic reports filed with the Securities and Exchange Commission including our Form 10-K for the year ended December 31, 2016. These forward-looking statements are made only as of the date hereof, and we disclaim any obligation to update any such forward-looking statements.

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