Codiak Reports Positive Initial Data for exoSTING™ Phase 1/2 Trial Indicating Tolerability, Immune Activation, and Evidence of Tumor Shrinkage in Injected and Non-Injected Tumors in the First Three Dose Escalation Cohorts

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– exoSTING resulted in localized STING pathway activation and dose-dependent immune activation –

– Intratumoral administration of exoSTING was well tolerated and demonstrated tumor retention, no systemic exposure to STING agonist, and in a subset of patients, tumor shrinkage in injected and distal non-injected lesions –

– Data on objective response rate and recommended Phase 2 dose selection for expansion anticipated 1H 2022 –

– Codiak to host conference call and webcast today at 8:00 am ET –

CAMBRIDGE, Mass., Nov. 16, 2021 (GLOBE NEWSWIRE) -- Codiak BioSciences, Inc. (NASDAQ: CDAK), a clinical-stage biopharmaceutical company focused on pioneering the development of exosome-based therapeutics as a new class of medicines, today announced positive initial data for exoSTING, a novel engineered exosome therapeutic candidate currently being investigated in a Phase 1/2 clinical trial as a single agent for the treatment of multiple solid tumors.

“We are excited to see that the initial foundational data from our exoSTING program are consistent with the pharmacologic activity that we observed with the candidate preclinically, and point to a differentiated mechanism of action afforded by the engineered exosome-based delivery of the STING agonist,” said Doug Williams, PhD, CEO of Codiak. “The targeted delivery and tumor retention observed so far appear to effectively engage the STING pathway, and at tested doses, exoSTING was well tolerated and showed initial signals of clinical activity. These data also reinforce our conviction that our engineering platform enables the specific design of therapeutic molecules with desired attributes to effectively modulate important targets that have not been successfully drugged before.”

In the first three dose cohorts of trial participants treated with exoSTING in this ongoing dose-escalation study, evidence of local STING pathway activation and stimulation of both innate and adaptive immune responses were observed at all tested doses (0.3 mcg, 1.0 mcg, and 3.0 mcg). Intratumoral injection of exoSTING did not lead to systemic exposure to the STING agonist and was well tolerated at all dose levels tested. Additionally, pharmacodynamic data indicated that intratumoral administration of exoSTING was >100-fold more potent than data reported in prior published STING agonist clinical studies. Analysis of blood cells after exoSTING dosing showed the migration of activated cells from the tumor, and in some subjects, substantial induction of Interferon Stimulated Genes (ISG), which are involved in interferon response and activation of antigen presenting cells (APCs). Tumor shrinkage of injected and non-injected lesions were noted in a subset of subjects.

exoSTING is one of the first engineered exosome therapeutic candidates to be evaluated in humans and one of two Codiak programs currently in clinical development. exoSTING was engineered with the company’s proprietary engEx™ Platform and designed to deliver Codiak’s proprietary STING (Stimulator of Interferon Genes) agonist specifically to tumor-resident APCs to locally activate the innate immune response and to generate an adaptive immune response by presenting tumor antigens to T cells.

The STING pathway is a validated drug target, yet therapeutic development has been generally limited by lack of tumor retention, tolerability issues due to systemic exposure to the agonist and T-cell ablation in the tumor at higher agonist doses, resulting in the inability to effectively engage the pathway. In preclinical models of exoSTING, the targeted delivery of a STING agonist to tumor resident APCs promoted localized innate immune activation, T cell attraction and expansion in the tumor, and the development of systemic immunity not observed with a STING agonist delivered without exosomes (e.g., “free”).

Initial Data from Dose Cohorts 1-3
The initial data are being reported from the first three ascending dose cohorts (0.3 mcg, 1.0 mcg, and 3.0 mcg) enrolled in the Phase 1/2 study. Trial participants (n=11) were administered exoSTING intratumorally and all subjects had received at least two prior therapies prior to study entry with most (73%) having progressed on checkpoint inhibitors.

Plasma pharmacokinetic (PK) measurements of subjects that received exoSTING showed no systemic exposure to the agonist. Further, analyses of available plasma biomarkers indicated a lack of systemic inflammatory cytokines detectable in blood after exoSTING administration.

Within the first three dose cohorts, exoSTING was generally well tolerated and no treatment-related adverse events were observed through the 28-day follow-up period and beyond.

Blood biomarker assessments conducted post dosing showed evidence of dose-dependent activation of the STING pathway and Type I INF induction along with CXCL10, indicating activation of the innate immune response. Paired tumor biopsies available from two subjects showed evidence of an adaptive immune response and CD8 effector T cell infiltration into the tumor, as well as an increase in PD-L1 expression.

Finally, in subjects evaluable for early signs of antitumor activity (n=8), tumor shrinkage was observed in injected as well as distal, non-injected tumors, in a subset of subjects.

Enrollment in cohorts 4 (6 mcg) and 5 (12 mcg) of the exoSTING trial is ongoing. Data from all five cohorts including objective response data are expected in the first half of 2022, which will enable identification of a recommended Phase 2 dose.

exoSTING Development and Ongoing Phase 1/2 Clinical Trial
The Phase 1/2 dose escalation clinical trial of exoSTING is designed to investigate safety, tolerability, pharmacological activity, and objective tumor response in patients with advanced/metastatic, recurrent, injectable solid tumors, with a focus on tumors likely to be enriched in APCs. As part of the Phase 2 portion of the trial, Codiak intends to enroll further expansion cohorts of patients at the optimal exoSTING dose to be identified in the Phase 1 portion of the clinical program.

About exoSTING™
exoSTING is Codiak's exosome therapeutic candidate engineered to incorporate a proprietary STING (Stimulator of Interferon Genes) agonist inside the lumen of the exosome while expressing the exosomal protein, PTGFRN, on the exosome surface to facilitate specific uptake in tumor-resident antigen presenting cells. Codiak believes that exoSTING has the potential to overcome certain limitations of free STING agonists, and to enhance the therapeutic index and selectivity of delivery to desired cells in the tumor microenvironment.

Conference Call and Webcast
Codiak will host a conference call and webcast today at 8:00 a.m. ET. The webcast may be accessed through the "News & Events" page in the "Investors & Media" section of Codiak's website at https://ir.codiakbio.com/news-events. A PDF of the accompanying slides will be available for download. Phone participants in the U.S and Canada may dial (800) 385-9715 and refer to conference ID 8863323 (international callers please use (409) 937-8965). To ensure timely access to the event, participants are encouraged to connect to the call 10 minutes before the start time or to use the webcast link for listen-only access.

The archived webcast will be available on Codiak's website beginning approximately two hours after the event and will be available for replay for at least 90 days after the event.

About Codiak BioSciences
Codiak is a clinical-stage biopharmaceutical company pioneering the development of exosome-based therapeutics, a new class of medicines with the potential to transform the treatment of a wide spectrum of diseases with high unmet medical need. By leveraging the biology of exosomes as natural intercellular transfer mechanisms, Codiak has developed its proprietary engEx Platform to expand upon the innate properties of exosomes to design, engineer and manufacture novel exosome therapeutic candidates. Codiak has utilized its engEx Platform to generate a deep pipeline of engineered exosomes aimed at treating a broad range of diseases, spanning oncology, neuro-oncology, infectious disease and rare disease.

Forward-Looking Statements
This press release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, including, among other things, statements concerning the development and therapeutic potential of exoSTING, including expected design of clinical trials and timing of availability and release of data, and statements regarding the capabilities and potential of Codiak's engEx Platform and engineered exosomes generally. In addition, Codiak has not conducted any head-to-head clinical studies that compare exoSTING to another drug product, whether investigational or approved. Information regarding other drug products in this news release is meant to provide context for illustrative purposes only. Because there are no head-to-head clinical studies, no conclusions should be made based on cross study comparison. Any forward-looking statements in this press release are based on management's current expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. For a discussion of these risks and uncertainties, and other important factors, any of which could cause our actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in Codiak's Annual Report on Form 10-K for the year ended December 31, 2020, and in subsequent filings with the Securities and Exchange Commission, as well as discussions of potential risks, uncertainties and other important factors in Codiak's subsequent filings with the Securities and Exchange Commission. All information in this press release is current as of the date of this report, and Codiak undertakes no duty to update this information unless required by law.

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