



Codiak Presents New Preclinical Data Supporting Development of a Broadly Protective Pan Beta-Coronavirus Vaccine

April 20, 2022

– Engineered exosome vaccine construct generated durable, comprehensive immunity *in vivo* –

CAMBRIDGE, Mass., April 20, 2022 (GLOBE NEWSWIRE) -- Codiak BioSciences, Inc. (Nasdaq: CDAK), a clinical-stage biopharmaceutical company focused on pioneering the development of exosome-based candidates as a new class of medicines, today announced new preclinical data from its pan beta-coronavirus vaccine program, which aims to protect against all SARS-CoV-2 variants of concern and potential future strains belonging to the beta-coronavirus family. The data, which are being presented today at the World Vaccine Congress 2022 in Washington, D.C., demonstrate the potential for a novel engineered exosome-based vaccine candidate derived from Codiak's exoVACC™ platform to induce cross-neutralizing antibody protection against multiple strains of coronaviruses and an antigen-specific and comprehensive immune response against structurally conserved regions of multiple coronavirus variants.

"As the pandemic continues to play out across the world, the need for a single vaccine that can protect against multiple coronavirus variants – those that we know and those we don't – is increasingly clear," said Sriram Sathyanarayanan, Ph.D., Chief Scientific Officer, Codiak. "Our exosome engineering platform gives us the unique ability to construct vaccine candidates with intentionally-chosen components to induce a precise, broad and lasting immune response. Our lead candidate incorporates multiple distinct features to accomplish this goal, notably the use of receptor binding domains from multiple coronaviruses to provide broad antibody protection and the integration of highly conserved T cell epitopes that elicit powerful T cell responses resistant to mutational pressure. These data provide further evidence of preclinical proof of concept and we look forward to advancing this program toward IND-enabling studies this year."

Codiak's proprietary and modular vaccine platform leverages engineered exosomes – naturally occurring, extracellular nanoparticle vesicles – to precisely control antigen display on the surface or in the lumen, in order to deliver antigens, adjuvants and immunomodulators simultaneously and selectively to antigen presenting cells to maximize immune response. The pan beta-coronavirus vaccine construct, developed in collaboration with the Ragon Institute of MIT, MGH and Harvard, carries the receptor-binding domain (RBD) protein of both SARS-CoV-1 and SARS-CoV-2 at high density on the surface of the exosome, combined with structurally constrained, highly conserved T cell antigens expressed in the lumen, and stable loading of a STING agonist as an adjuvant. This design closely resembles the natural viral structures and is amendable to multiple routes of administration, including subcutaneous, intramuscular and intranasal.

Preclinical data presented late last year demonstrate that Codiak's vaccine candidate stimulates a comprehensive immune response conferring both antibody and T cell-mediated immunity, a neutralizing antibody response against multiple SARS-CoV-2 variants and the ability to illicit antigen-specific T cell responses against structurally conserved regions of all known coronavirus variants of concern. Key conclusions from additional preclinical studies presented today include:

- Evidence of a durable antibody response lasting at least eight months in a mouse model;
- Induction of mucosal immune responses in vaccinated mice that were equivalent to responses in humans vaccinated with an mRNA vaccine and induction of lung resident memory CD4 and CD8 T cells when administered intranasally;
- Generation of cross-protective neutralizing antibodies in response to vaccination with an exosome carrying the RBD proteins for both SARS-CoV1 and SARS-CoV-2; and
- Upon challenge with the Delta variant, 100% survival and minimal evidence of infection in lung tissues.

The T cell epitopes used in the vaccine constructs were identified by Gaurav Gaiha, M.D., principal investigator at the Ragon Institute. These structural pieces of the virus are believed to be invariant, lending the candidate the ability to generate CD8 T cell responses that are potentially protective against all beta-coronaviruses, and, in preclinical models of SARS-CoV-2 infection, served to further enhance the overall immune response.

"Exosomes are well-suited to be harnessed as vaccines because of the role they naturally play in the immune system and the opportunity they provide for a modular approach to vaccine design that has distinct advantages over other delivery vehicles," said Dr. Gaiha. "Our collaboration with Codiak since the early days of the pandemic has been quite productive and we are pleased to see these data, which show in preclinical models that the addition of the T cell epitopes generates a stronger and more complete immune response than the same construct without them."

About the exoVACC™ Platform

exoVACC is Codiak's proprietary and modular vaccine system that utilizes the unique properties of exosomes to deliver antigens and adjuvants simultaneously and selectively to the same antigen presenting cells (APCs), driving an integrated innate, cellular and/or antibody-mediated immune response. Utilizing its engEx™ engineering platform, Codiak can incorporate within a single exosome multiple complex antigens and adjuvants, as well as cell-targeting ligands and immune co-stimulatory molecules to potentially enhance and shape an immune response. Codiak is developing this platform for potential applications in infectious disease and oncology.

About Codiak BioSciences

Codiak is a clinical-stage biopharmaceutical company focused on 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 disease areas, 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 Company’s development of an exosome-based vaccine for SARS-CoV-2, as well as statements concerning the development and therapeutic potential of the Company’s engEx Platform, engEx product candidates and engineered exosomes generally, including future development plans, regulatory filings, releases of data and timing with respect thereto. 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, 2021, and in Codiak’s 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.

Investor Contact: Christopher Taylor VP, Investor Relations and Corporate Communications T: 617-949-4220 E: investor@codiakbio.com Media Contact: Lindy Devereux Scient PR T: 646-515-5730 E: lindy@scientpr.com