Codiak Presents Preclinical Data Demonstrating its Pan Beta-Coronavirus Vaccine Elicits Broad Protective Immunity Against Known Variants of SARS-CoV-2 and Related Sarbecoviruses

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– Data support advancement of Codiak's engineered exosome bivalent vaccine candidate toward IND-enabling studies –

CAMBRIDGE, Mass., Oct. 12, 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 additional 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 in a presentation and poster at the Vaccines Summit 2022 in Washington, DC, demonstrate the potential of Codiak's exoVACC™ vaccine candidate, exoRBD, to protect against multiple known Variants of Concern (VoC) of SARS-CoV-2 and seven coronaviruses from the Sarbecovirus family that are currently in bats and may have a high potential to jump into humans.

"Vaccine and therapeutic development for SARS-CoV-2 has been impressive and life-saving, but the virus continues to mutate to evade vaccine protection. At the same time, there remains the threat that another beta coronavirus or variant of concern could emerge. It's clear that a vaccine offering comprehensive immunity across a range of coronaviruses would address this urgent need and represents an important advancement in combatting these viruses," said Sriram Sathyanarayanan, Ph.D., Chief Scientific Officer, Codiak. "Building on the *in vivo* results we presented over the past year, the data presented today demonstrate the bivalent version of our pan beta-coronavirus vaccine candidate offers broadly protective immunity against known strains of SARS-CoV-2 and has the added benefit of protecting against circulating bat coronaviruses that may have a high potential to make the zoonotic transmission into humans. This suggests that our exosome-based vaccine could limit the virus' ability to mutate and evade protection. We look forward to our continued partnership with the Coalition for Epidemic Preparedness Innovations (CEPI), which is funding this research, and plan to advance our bivalent exoRBD candidate into IND-enabling studies."

Codiak's pan beta-coronavirus vaccine candidate incorporates multiple distinct features to generate comprehensive immunity, notably the use of receptor binding domain (RBD) molecules from coronaviruses to provide broad antibody protection and the integration of highly conserved T cell epitopes that elicit powerful CD8 T cell responses resistant to mutational pressure.

Key conclusions from the preclinical studies presented today include:

- The bivalent version of Codiak's pan beta-coronavirus vaccine with RBDs from SARS-CoV-2 (Wu) and SARS-CoV-1 generated protective immunity *in vivo* against multiple SARS-CoV-2 variants and seven circulating bat coronaviruses, including the closely related Pangolin virus;
- Multivalent display of SARS-CoV-2 RBD on exosomes induced greater titers of anti-RBD antibodies and superior neutralization potency than soluble forms of rRBD, highlighting the importance of exosome surface display;
- The loading of a STING agonist onto exoRBD strongly boosts RBD-specific antibody responses with similar levels of neutralizing antibodies as human subjects vaccinated twice with mRNA vaccine, and the antibody responses can last for 10 months or longer;
- The addition of T cell antigens to the exosome-based vaccine elicited CD8+ T-cell response against conserved T-cell epitopes that provided mucosal immunity resulting in maximal protection with minimal lung inflammation following a lethal SARS-CoV-2 challenge.

Codiak's proprietary and modular vaccine platform, exoVACC, 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.

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 and related Sarbecovirus, 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.

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