May 16, 2022

Codexis Presents Pre-Clinical Data Highlighting Gene Therapy Programs at the ASGCT 25th Annual Meeting

REDWOOD CITY, Calif., May 16, 2022 (GLOBE NEWSWIRE) -- Codexis, Inc. (NASDAQ: CDXS), a leading enzyme engineering company enabling the promise of synthetic biology, today announced that three of its gene therapy programs are the subject of two poster presentations at the American Society of Gene and Cell Therapy (ASGCT) 25th Annual Meeting, taking place from May 16 to May 19, 2022, in Washington, D.C. and virtually. The pre-clinical data highlights enzyme variants engineered with Codexis' CodeEvolver® platform to offer potentially improved efficacy as compared to current enzymes when administered as transgenes in gene therapies for Hemophilia A, Fabry Disease, and Pompe Disease.

"The exciting results coming out of our early-stage programs across Hemophilia A, Fabry Disease, and Pompe Disease showcase the promise of engineered enzyme variants to inspire a new generation of gene therapies with improved stability and expression profiles," said John Nicols, Codexis President and CEO. "With our unique CodeEvolver® platform, our scientists efficiently perform structure-functions analyses on tens of thousands of variants and generate transgenes that encode superior enzymes, thereby overcoming the therapeutic shortcomings of naturally occurring sequences used in current therapies. When applied to gene therapies, this process holds great potential for addressing unmet needs and improving patient outcomes, and we look forward to further advancing these programs as we work to harness the untapped potential of directed evolution."

The Company's first poster, titled, "Towards Improving the Treatment of Hemophilia A with Directed Evolution of the Factor VIII Transgene," highlights the potential of engineered transgenes to offer improved efficacy of Recombinant Factor VIII (FVIII) therapies in patients with Hemophilia A. Codexis used CodeEvolver® to identify variants of a B-domain deleted FVIII (FVIII-BDD) with superior properties as compared to the wild-type enzyme. These characteristics include enhanced expression, secretion, stability, cofactor potency, and reduced immunogenicity, which could improve upon current gene therapy strategies by potentially enabling lower doses and achieving higher quality patient outcomes. Engineered FVIII-BDD variants were shown to retain more than 80% of their activity after four days, as opposed to wild-type FVIII-BDD, which loses more than 50% of its activity after 48 hours. The engineered FVIII-BDD variants also demonstrate greater than 30-fold increased expression from HepG2 liver cells and more than 20-fold improved potency in a chromogenic FXa generation assay.

Codexis will present a second poster, "Overcoming Therapeutic Deficiencies in Lysosomal Storage Disease Treatments Using Directed Evolution," detailing the discovery of engineered enzyme transgenes with superior properties and the potential to offer improved efficacy in treating lysosomal storage diseases at lower doses than gene therapies constrained by the limitations of wild-type enzymes. Codexis used the CodeEvolver® platform to identify a-galactosidase A (GLA) and a-glucosidase (GAA) variants to address

Fabry Disease and Pompe Disease, respectively. GLA variants demonstrated up to about 20 times increased activity in patient fibroblasts and $GLA^{-/-}$ podocytes, and pre-clinical data showed that the *in vitro* improvements translated to improved pharmacokinetics, biodistribution, and Gb3 substrate reduction in a mouse disease model. The engineered GAA variants for Pompe Disease were observed to retain more than 60% of their activity through 50 hours in plasma at 37°C, while wild-type GAA maintains less than 10% of its activity within 24 hours under the same conditions. Pompe fibroblasts and $GAA^{-/-}$ myoblasts treated with the selected GAA variants also have up to about 40 times higher GAA activity in cell lysates as compared to wild-type GAA.

The posters, "Improving the Treatment of Hemophilia A with Directed Evolution of the Factor VIII Transgene" (#M-245) and "Using Directed Evolution to Overcome Therapeutic Deficiencies in Treating Lysosomal Storage Diseases" (#M-131), will be available on the ASGCT website and are also available on the Company's website at www.codexis.com/resources.

About Codexis

Codexis is a leading enzyme engineering company leveraging its proprietary CodeEvolver® platform to discover and develop novel, high performance enzymes and novel biotherapeutics. Codexis enzymes have applications in the sustainable manufacturing of pharmaceuticals, food, and industrial products; in the creation of the next generation of life science tools; and as gene therapy and biologic therapeutics. The Company's unique performance enzymes drive improvements such as: reduced energy usage, waste generation and capital requirements; higher yields; higher fidelity diagnostics; and more efficacious therapeutics. Codexis enzymes enable the promise of synthetic biology to improve the health of people and the planet. For more information, visit www.codexis.com.

Forward-Looking Statements

To the extent that statements contained in this press release are not descriptions of historical facts regarding Codexis, they are forward-looking statements reflecting the current beliefs and expectations of management made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. You should not place undue reliance on these forward-looking statements because they involve known and unknown risks, uncertainties and other factors that are, in some cases, beyond Codexis' control and that could materially affect actual results. Additional information about factors that could materially affect actual results can be found in Codexis' Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC") on February 28, 2022, including under the caption "Risk Factors," in Codexis' Quarterly Report on Form 10-Q filed with the SEC on May 9, 2022, and in Codexis' other periodic reports filed with the SEC. Codexis expressly disclaims any intent or obligation to update these forward-looking statements, except as required by law.

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