



**Neoleukin Therapeutics Announces Publication in Science of De Novo Protein Decoys that Block COVID-19 Infection In Vitro and Protect Animals In Vivo**

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- Intranasal administration of NL-CVX1 protects hamsters from lethal SARS-CoV-2 infection –

- Designed to resist viral mutational escape by mimicking the natural target of the spike protein -

SEATTLE, Nov. 05, 2020 (GLOBE NEWSWIRE) -- Neoleukin Therapeutics, Inc., "Neoleukin" (NASDAQ:NLTX), a biopharmaceutical company utilizing sophisticated computational methods to design de novo protein therapeutics, today announced the publication in *Science* of research describing novel molecules designed to treat or prevent infection by the virus that causes COVID-19, SARS-CoV-2. This report details the creation of *de novo* protein decoys that were specifically designed to bind the SARS-CoV-2 spike protein with high affinity, preventing its association with the viral receptor hACE2, which is required for infection. The manuscript titled "De novo design of potent and resilient hACE2 decoys to neutralize SARS-CoV-2" is available online [here](#)<sup>1</sup> via Science First Release.

As reported, the optimized, hyperstable proteins act as decoys that bind to the virus and block cellular entry. The lead molecule, NL-CVX1 (CTC-445.2d), is shown to prevent infection of multiple human cell lines and to protect hamsters from serious consequences of SARS-CoV-2 infection. Prophylactic intranasal administration of the protein decoy led to survival of all hamsters challenged with a lethal dose of SARS-CoV-2.

"Our *de novo* proteins are designed to mimic the natural SARS-CoV-2 receptor, making them intrinsically resistant to viral mutation," said Daniel-Adriano Silva, Ph.D., Vice President Head of Research, who led the discovery effort at Neoleukin. "We believe the development of NL-CVX1 is the fastest development of a therapeutic *de novo* protein from concept to preclinical validation, and it represents our most sophisticated design to date."

"The rapid development of this targeted protein demonstrates the potential of our *de novo protein* design platform and our team of scientists to address a broad spectrum of important biological problems," said Jonathan Drachman, M.D., Chief Executive Officer of Neoleukin. "NL-CVX1 is designed to be stable and could potentially be administered by intranasal spray or inhalation to prevent and treat infection in the lungs and upper airways by SARS-CoV-2. We are currently evaluating the possibility of advancing this molecule to clinical trials in humans."

#### **About Neoleukin Therapeutics, Inc.**

Neoleukin is a biopharmaceutical company creating next generation immunotherapies for cancer, inflammation and autoimmunity using de novo protein design technology. Neoleukin uses sophisticated computational methods to design proteins that demonstrate specific pharmaceutical properties that provide potentially superior therapeutic benefit over native proteins. Neoleukin's lead product candidate, NL-201, is a combined IL-2 and IL-15 agonist designed to improve tolerability and activity by eliminating the alpha receptor binding interface. For more information, please visit the Neoleukin website: [www.neoleukin.com](http://www.neoleukin.com).

#### **Safe Harbor / Forward-Looking Statements**

This press release contains "forward-looking" statements within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995, including, but not limited to, planned development activities and timelines, use and adequacy of cash reserves and the potential benefits of the company's product candidates and platform. Forward-looking statements can be identified by words such as: "anticipate," "intend," "plan," "goal," "seek," "believe," "project," "estimate," "expect," "strategy," "future," "likely," "may," "should," "will" and similar references to future periods. Examples of such forward-looking statements include but are not limited to statements regarding the therapeutic properties and potential of the company's *de novo* protein design technology. These statements are subject to numerous risks and uncertainties, including risks and uncertainties related to the company's cash forecasts, the company's ability to advance its product candidates, the receipt and timing of potential regulatory submissions, designations, approvals and commercialization of product candidates, the timing and results of preclinical and clinical trials, the timing of announcements and updates relating to the company's clinical trials and related data market conditions and further impacts of COVID-19, that could cause actual results to differ materially from what Neoleukin expects. Further information on potential risk factors that could affect Neoleukin's business and its financial results are detailed under the heading "Risk Factors" in documents the company files from time to time with the Securities and Exchange Commission (SEC), and other reports as filed with the SEC. Neoleukin undertakes no obligation to publicly update any forward-looking statement, whether written or oral, that may be made from time to time, whether as a result of new information, future developments or otherwise.

1. T. W. Linsky et. al, De novo design of potent and resilient hACE2 decoys to neutralize SARS-COV-2, *Science*, 10.1126/science.abe0075 (2020)

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