Gritstone Announces Results from Preclinical Study of its Self-amplifying mRNA (samRNA) Vaccine Against SARS-CoV-2 Published in Nature Communications

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-- Results, which were previously pre-printed in bioRxiv, show Gritstone's second-generation self-amplifying mRNA (samRNA) vaccine candidate drove broad neutralizing antibodies, T cell responses and offered protection against SARS-CoV-2 infection in rhesus macaques --

-- Neutralizing antibody responses were induced at up to a 10-fold lower dose than first-generation mRNA vaccines --

-- Durable protection against SARS-CoV-2 in rhesus macaques observed with the samRNA vaccine regimen supports ongoing therapeutic exploration in coronaviruses and other infectious diseases --

EMERYVILLE, Calif., June 10, 2022 (GLOBE NEWSWIRE) -- Gritstone bio, Inc. (Nasdaq: GRTS), a clinical-stage biotechnology company that aims to develop the world's most potent vaccines, today announced results from a preclinical study evaluating a self-amplifying mRNA (samRNA) vaccine candidate against SARS-CoV-2 were published in *Nature Communications*, in an article titled "Low-dose self-amplifying mRNA COVID-19 vaccine drives strong protective immunity in non-human primates against SARS-CoV-2 infection". The results of the study, which were previously pre-printed in bioRxiv (in November 2021), show that the samRNA vaccine candidate induced broad and potent neutralizing antibodies and T cell immune responses following administration to non-human primates (NHP) at low doses, and that these immune responses were protective against SARS-CoV-2 challenge. Since the pre-publication of these data in November 2021, Gritstone disclosed initial results from a Phase 1 study of a samRNA vaccine candidate demonstrating similar outcomes against SARS-CoV-2 (Press release announcing initial results from CORAL-BOOST study issued on January 4, 2022). The company is currently evaluating samRNA vaccines for coronaviruses and other infectious diseases.

"The publication of this study in *Nature Communications,* a top-tier journal, validates the quality of Gritstone's science and endorses the significance of our novel approach to infectious diseases," said Andrew Allen, M.D., Ph.D., Co-founder, President, and Chief Executive Officer of Gritstone. "Strong neutralizing antibody titers can offer protection in short-term viral challenge experiments, but when combined with potent CD8+ T cell responses against conserved regions of the viral genome, that protection may be more durable and less subject to immune escape, which is a key challenge facing first-generation mRNA vaccines today. The attractive properties of dose-sparing and expansive, more durable immunity underpin our plans to explore the broad protective and therapeutic utility of samRNA vaccines against COVID-19 and other viral pathogens."

Karin Jooss, Ph.D., Executive Vice President, and Head of R&D added, "Self-amplifying mRNA is an attractive platform for potentially superior next-generation mRNA vaccines. Since we began working on this delivery platform in 2016, we have optimized multiple components of samRNA to increase potency and reduce reactogenicity. These exciting NHP data, together with the emerging clinical data from our SARS-CoV-2 program, further demonstrate the success of these vaccine improvements as well as samRNA's potential applicability across a variety of other pathogens."

Gritstone is currently evaluating four distinct SARS-CoV-2 product candidates across three different Phase 1 clinical trials containing various Spike variants plus additional highly conserved non-Spike T cell epitope sequences (and also full-length nucleocapsid) within its CORAL program. These studies include homologous and heterologous prime-boost regimens. All three of these studies are ongoing, and data from all are expected during the second half of 2022.

About Self-amplifying mRNA (samRNA)
Gritstone's samRNA vector is based on a synthetic RNA molecule derived from a wild-type Venezuelan Equine Encephalitis Virus (VEEV) replicon with the goal of extending the duration and magnitude of immunogen expression to drive potent and durable immune responses. The samRNA is delivered in a lipid nanoparticle (LNP) formulation. Like traditional mRNA vaccines, samRNA vaccines use the host cell's transcription system to produce target antigens to stimulate adaptive immunity. Unlike traditional mRNA, samRNA has an inherent ability to replicate by creating copies of the original strand of RNA once it is in the cell. Potential benefits of samRNA may include extended duration and magnitude of antigen expression, strong and durable induction of neutralizing antibody and T cell immunity (CD4+ and CD8+), dose sparing, and a refrigerator stable product.

About the CORAL Program
Gritstone's CORAL program is a second-generation SARS-CoV-2 vaccine platform delivering spike and additional SARS-CoV-2 T cell epitopes, offering the potential for more durable protection and broader immunity against SARS-CoV-2 variants. Delivery vectors can comprise a chimpanzee adenovirus, self-amplifying mRNA (samRNA) or both. The program is supported by several key relationships: Bill & Melinda Gates Foundation, National Institute of Allergy and Infectious Disease (NIAID), and the Coalition for Epidemic Preparedness Innovations (CEPI).

About Gritstone
Gritstone bio, Inc. (Nasdaq: GRTS) is a clinical-stage biotechnology company that aims to create the world's most potent vaccines. We leverage our innovative vectors and payloads to train multiple arms of the immune system to attack critical disease targets. Independently and with our collaborators, we are advancing a portfolio of product candidates to treat and prevent viral diseases and solid tumors in pursuit of improving patient outcomes and eliminating disease. www.gritstonebio.com

Gritstone Forward-Looking Statements
This press release contains forward-looking statements, including, but not limited to, statements related to the potential of Gritstone's therapeutic programs; the advancements in the company's ongoing clinical trials; the timing of data announcements related to ongoing clinical trials and the initiation of future clinical trials. Such forward-looking statements involve substantial risks and uncertainties that could cause Gritstone's research and clinical development programs, future results, performance or achievements to differ significantly from those expressed or implied by the forward-looking statements. Such risks and uncertainties include, among others, the uncertainties inherent in the drug development process, including

Gritstone's programs' early stage of development, the process of designing and conducting preclinical and clinical trials, the regulatory approval processes, the timing of regulatory filings, the challenges associated with manufacturing drug products, Gritstone's ability to successfully establish, protect and defend its intellectual property and other matters that could affect the sufficiency of existing cash to fund operations. Gritstone undertakes no obligation to update or revise any forward-looking statements. For a further description of the risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to the business of the company in general, see Gritstone's most recent Quarterly Report on Form 10-Q filed on May 5, 2022 and any current and periodic reports filed with the Securities and Exchange Commission.

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