



MEDIPHAGE

BIOCEUTICALS

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## PRESS RELEASE

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### **Mediphage Bioceuticals, Inc. Initiates a COVID-19 Vaccine Development Program**

**Toronto, Ontario** – Mediphage Bioceuticals, Inc., a genetic medicine company, developing **safe, effective, and accessible** therapeutics to unlock the power of *personalized and redosable* genetic medicine, announced the development of a novel vaccine against COVID-19.

Rising to the urgency of the situation, “When complete, our DNA-based vaccine will be administered non-invasively as a nasal spray that delivers nanomedicine engineered to immunize and decrease COVID-19 infections,” explains Roderick Slavcev, CSO and Founder of Mediphage.

Mediphage is collaborating with innovative researchers at the University of Waterloo, School of Pharmacy and leveraging its proprietary ministring DNA (msDNA) gene delivery technology to develop a novel prophylactic and therapeutic approach against COVID-19. This vaccine is targeted against ACE2 receptors in lung and respiratory tissue, mimicking the primary site of SARS-CoV-2 infection. msDNA is genetically engineered to encode a virus-like particle (VLP) derived from the SARS-CoV-2 genome. The non-pathogenic VLP components will stimulate cell-mediated and humoral protective immune responses and by mimicking an infection or “synthetic infection or synfection” in a safe manner, this novel approach trains the immune system to respond to potential subsequent infections by the SARS-CoV-2 virus and its derivatives.

Mediphage is planning ahead and is actively optimizing in-house manufacturing of the msDNA-VLP vaccine construct to generate materials for preclinical development. Following this, Mediphage plans to conduct *in vitro* assessment of transfection efficiency, VLP formation, and immune responses in respiratory tissue and *in vivo* evaluation of humoral and cell-mediated responses and protection from SARS-CoV-2. Mediphage also plans to conduct key IND-enabling studies and set up GMP manufacturing to ensure preparation for clinical studies by Q2 2021.

#### **About Mediphage**

Mediphage Bioceuticals is a precision genetic medicine company with a mission to eradicate suffering from a wide range of chronic diseases through revolutionary therapeutics. The Toronto-based company, founded in January 2016 as a spin-off from the University of Waterloo, uses proprietary *E. Coli*-based manufacturing platforms to generate safe, effective and redosable gene delivery vectors called ministring DNA or msDNA. Mediphage’s proprietary msDNA platform is an efficient, customizable, durable, and highly scalable, non-viral gene delivery vector which confers application to *in vivo* and *ex vivo* gene or cell therapies. Mediphage is focusing its internal efforts on developing a therapeutic for Stargardt Disease, an ocular inherited condition caused by a mutation of the large *ABCA4* gene, and more recently, initiated a COVID-19 vaccine development program which employs msDNA to deliver a VLP against SARS-CoV-2. As a platform technology, msDNA has the potential for broad applicability to various gene or cell therapy and gene editing categories including T-cell and B-cell applications, DNA vaccines, iPSC, CRISPR and rAAV production.