



# Mediphage Bioceuticals

Q2 2019 Update

## About the Company:

Mediphage Bioceuticals is a personalized genetic medicine company with the goal to eradicate suffering from a wide range of chronic diseases. Mediphage's flagship technology, ministring DNA is a highly safe, effective and scalable non-viral gene delivery vector. With a unique linear covalently closed topology and superior safety and efficacy profiles, ministring DNA meets a critical need in the gene & cell therapy space.

While gene and cell therapies hold great potential for the treatment of a wide range of chronic disorders, the costs remain astronomical, ranging from \$400K to \$1M per treatment. These high costs are due to the use and production of expensive vectors to deliver therapeutic DNA to cells. Additionally, significant safety issues exist in the approach; approximately 2,000 current gene therapy trials use viral vectors, owing to their superior efficacy. However, the safety risks associated with viral vectors, including insertional mutagenesis and immunogenicity, are barriers to making genetic therapies broadly applicable to many disease indications.

## Q2 2019 Business Update:

During Q2 2019, Mediphage Bioceuticals focused on expanding in-house manufacturing capabilities for large-scale production of ministring DNA. To support these efforts, Mediphage hired two Laboratory Technicians and is in the process of hiring an Associate Scientist with expertise in large-scale plasmid purification. Rapid production of ministring DNA will allow Mediphage Bioceuticals to engage in partnerships to further validate ministring DNA *in vitro* and *in vivo*.

Mediphage continues its therapeutic program to validate the application of ministring DNA as a treatment for inherited ocular diseases, with *in vivo* therapeutic studies scheduled to begin in Q3 2019. Additionally, Mediphage engaged in three partnerships to conduct *in vitro* and *in vivo* studies to validate the safety and efficacy of ministring DNA in various tissues. These partnerships are ongoing and are expected to generate additional *in vivo* data during Q3 2019.

## Accomplishments and Events:

- June 2019: Mediphage Bioceuticals' CEO, CSO and VP Research and Development attended the BIO International Convention 2019 in Philadelphia
- April 2019: Mediphage Bioceuticals was one of 16 companies selected to pitch their technology at Sweet Pharma Day Conference 2019 in Montreal

## Q3 2019 Goals:

In Q3 2019, Mediphage Bioceuticals aims to establish an in-house manufacturing process capable of rapidly generating large quantities of ministring DNA for use in internal studies and partnerships to validate the safety and efficacy of ministring DNA and generate meaningful *in vivo* data. Furthermore, Mediphage aims to execute MTAs with key partners to evaluate the application of ministring DNA in *ex vivo* applications such as iPSC and CRISPR-Cas.