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NIH and Matinas BioPharma Announce Research Collaboration to Identify Novel HIV Therapy Utilizing LNC Platform Delivery Technology

- Development program to focus on combination of antisense oligonucleotides with Matinas' Proprietary LNC Delivery Technology -

BEDMINSTER, N.J. and WASHINGTON, July 09, 2018 (GLOBE NEWSWIRE) -- [Matinas BioPharma Holdings, Inc.](#) (NYSE AMER:MTNB), a clinical-stage biopharmaceutical company focused on developing innovative medicines using its proprietary lipid nano-crystal (LNC) platform delivery technology, and the National Institute of Neurological Disorders and Stroke (NINDS), part of the National Institutes of Health (NIH), today announced a research collaboration focused on the development of a novel therapy for the treatment of human immunodeficiency virus (HIV) combining targeted antisense oligonucleotides (ASO) and Matinas' LNC delivery technology.

"We are very pleased to collaborate with the NIH on this important project," commented Dr. Raphael J. Mannino, Chief Scientific Officer of Matinas BioPharma. "The demonstrated efficacy of our LNC platform technology, in animal models, to effectively deliver siRNA to inhibit viral replication, as well as the ability of LNC to cross the blood-brain barrier, provides a strong foundation upon which to move forward with the NINDS on this program. We hope this critical project further demonstrates that our technology can be a ground-breaking solution to the variety of well-known delivery challenges in the gene therapy space."

Following more than 30 years of research, HIV remains a chronic infection with long-term damaging consequences including immunological dysfunction and neurocognitive impairment. Despite the presence of antiretroviral therapy (ART), ongoing viral replication, persistent inflammation and antiretroviral toxicity remain significant problems.

The goal of this collaboration is to leverage the unique attributes of Matinas' LNC technology to safely, effectively and efficiently deliver ASO intracellularly to inhibit Trans-Activator of Transcription (Tat)/viral mRNA translation. Tat is a contributing factor in three major aspects of HIV infection post treatment with antiretroviral therapy (ART): viral replication/latency, chronic inflammation and neurological complications. Tat is a key regulatory protein not specifically targeted by currently available ART. In vitro and in vivo studies will be conducted to determine optimal structures for incorporating ASOs into the LNC technology platform, delivery into target cells and the effective inhibition of Tat and/or viral replication while monitoring Tat-induced cytotoxicity.

"We need to gain a better understanding of the effectiveness of this unique delivery

technology in combination with our targeted ASOs, and our belief is that these studies will provide critical information for translation of this therapeutic strategy into human clinical trials," stated Avindra Nath, M.D., Chief, Section of Infections of the Nervous System, and Clinical Director of NINDS.

This series of studies will be conducted at the NIH in Bethesda, MD, under the direction of Principal Investigator Dr. Nath and Co-Investigator, Lisa Henderson, Ph.D.

About Matinas BioPharma

Matinas BioPharma is a clinical-stage biopharmaceutical company focused on developing innovative medicines using its lipid-crystal nano-particle cochleate (LNC) platform delivery technology. The Company's proprietary, disruptive technology utilizes lipid-crystal nano-particle cochleates to nano-encapsulate small molecules, oligonucleotides, vaccines and other medicines potentially making them safer, more tolerable, less toxic and orally bioavailable.

The Company's lead anti-fungal product candidate, MAT2203, positions Matinas BioPharma to become a leader in the safe and effective delivery of anti-infective therapies utilizing its proprietary LNC formulation technology.

For more information, please visit www.matinasbiopharma.com and connect with the Company on [Twitter](#), [LinkedIn](#), [Facebook](#), and [Google+](#).

Forward Looking Statements: *This release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, including those relating to the Company's anticipated capital and liquidity needs, strategic focus and the future development of its product candidates, including MAT2203, the anticipated timing of regulatory submissions, the anticipated timing of clinical studies, the anticipated timing of regulatory interactions, the Company's ability to identify and pursue development and partnership opportunities for its products or platform delivery technology on favorable terms, if at all, and the ability to obtain required regulatory approval and other statements that are predictive in nature, that depend upon or refer to future events or conditions. All statements other than statements of historical fact are statements that could be forward-looking statements. Forward-looking statements include words such as "expects," "anticipates," "intends," "plans," "could," "believes," "estimates" and similar expressions. These statements involve known and unknown risks, uncertainties and other factors which may cause actual results to be materially different from any future results expressed or implied by the forward-looking statements. Forward-looking statements are subject to a number of risks and uncertainties, including, but not limited to, our ability to obtain additional capital to meet our liquidity needs on acceptable terms, or at all, including the additional capital which will be necessary to complete the clinical trials of our product candidates; our ability to successfully complete research and further development and commercialization of our product candidates; the uncertainties inherent in clinical testing; the timing, cost and uncertainty of obtaining regulatory approvals; our ability to maintain and derive benefit from the Qualified Infectious Disease Product (QIDP), Orphan and/or Fast Track designations for MAT2203, which does not change the standards for regulatory approval or guarantee regulatory approval on an expedited basis, or at all; our ability to protect the Company's intellectual property; the loss of any executive officers or key personnel or consultants; competition;*

changes in the regulatory landscape or the imposition of regulations that affect the Company's products; and the other factors listed under "Risk Factors" in our filings with the SEC, including Forms 10-K, 10-Q and 8-K. Investors are cautioned not to place undue reliance on such forward-looking statements, which speak only as of the date of this release. Except as may be required by law, the Company does not undertake any obligation to release publicly any revisions to such forward-looking statements to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. Matinas BioPharma's product candidates are all in a development stage and are not available for sale or use.

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