March 16, 2018

Matinas BioPharma Appoints Jerome D. Jabbour as Chief Executive Officer and Provides Corporate Update

- *Leadership appointment positions Company for next stage of value creation*
- *Successful outcome of meeting with FDA provided important insight and clarity for clinical development path forward for MAT2203*
- *Conference call and live audio webcast to be held on March 19th at 8:30 a.m. ET*

BEDMINSTER, N.J., March 16, 2018 (GLOBE NEWSWIRE) -- Matinas BioPharma Holdings, Inc. (NYSE AMER:MTNB), clinical-stage biopharmaceutical company focused on developing innovative anti-infectives for orphan indications, today announced the appointment of Jerome D. Jabbour, Co-founder and President of Matinas, as its Chief Executive Officer ("CEO") and a member of its Board of Directors, effective immediately. As part of a planned transition, Roelof Rongen has stepped down as CEO and a member of the Board. The Company also outlined its revised and streamlined clinical and regulatory strategy for lead antifungal program, MAT2203, following its recent successful meeting with the U.S. Food and Drug Administration ("FDA") and its plans for optimizing its proprietary cochleate nano-particle platform delivery technology to secure strategic collaborations in areas of innovative medicine.

Herb Conrad, Chairman of the Board of Matinas, stated, "As we look to drive the Company forward into its next stage, it is evident that we need to embark on aggressive, yet focused strategies to fully realize the potential value associated with our technology platform. In preparing for this logical transition for some time, Jerry is intimately familiar with our delivery technology and product candidates and has developed valuable relationships and credibility with thought leaders and investors since joining the Company in 2013. The Board is confident that his vision and direction for the Company and demonstrated ability to execute are perfectly aligned with our strategic priorities moving forward. We are sincerely grateful to Roelof for his years of service to Matinas. He was integral in laying the foundation of the Company and positioning MAT2203 for a successful regulatory interaction with FDA in January 2018."

Mr. Jabbour is a Co-founder of Matinas and has served as President since March 2016 and as Executive Vice President, Chief Business Officer since 2013. Mr. Jabbour's key accomplishments since joining Matinas include engineering and executing the acquisition of Aquarius Biotechnologies Inc., and its novel and proprietary cochleate lipid-crystal delivery technology platform, leading the Company's financing strategy resulting in successfully raising more than $50 million to date and the up-listing of the Company's common stock to NYSE AMER in 2017.

“I am fully supportive of the transition plan laid out by our Board of Directors, and I leave the day-to-day operations of the Company confident in our clinical development program and the potential value associated with the disruptive cochleate nano-particle delivery platform technology. Having successfully led the Company to and through our recent positive FDA meeting, it is appropriate for me to step aside as the Company prepares for its next stage of growth. Jerry brings strong leadership, experience and continuity to our business, through which his efforts are already well positioned to achieve both corporate and clinical success,” commented Roelof Rongen.

“I am honored and delighted to be named Matinas’ next CEO and to lead the Company during this exciting and critical time. It has been a pleasure to partner with and learn from Roelof since we founded the Company together,” commented Jerome D. Jabbour, Chief Executive Officer. “During 2017, we gained valuable insight into our products and our technology platform, including the announcement of our first human patient data for MAT2203. I have a very clear vision for how we will utilize our available resources to maximize the opportunities presented by our potentially broadly applicable delivery platform. We are very pleased with the outcome of our meeting with FDA, which provided us with important insight and clarity for our clinical development path forward for MAT2203 during a highly-collaborative discussion. This significant advancement combined with ongoing dialogue with potential strategic partners in applying our disruptive delivery platform technology to new and innovative therapeutic areas, enables us to build on this momentum and drive significant value creation in 2018 and beyond. I look forward to working with the Board, our management team and all of our employees to execute on our focused growth strategy,” concluded, Mr. Jabbour.

MAT2203 CLINICAL DEVELOPMENT UPDATE AND OVERVIEW

The Company’s lead product candidate MAT2203 is an orally-administered cochleate formulation of a broad spectrum anti-fungal drug called amphotericin B. Matinas is initially developing MAT2203 for the prevention of invasive fungal infections (“IFIs”) due to immunosuppressive therapy, particularly in patients with Acute Lymphoblastic Leukemia (“ALL”). In January 2018, the Company had an end-of-Phase 1 meeting with the FDA which focused on the clinical development and toxicology plans for MAT2203 for Phase 2 and Phase 3 in support of a New Drug Application (“NDA”) submission for approval in prevention of IFIs in patients with ALL. Matinas plans to conduct a single Phase 2 trial using an adaptive trial design which the Company believes will position MAT2203 for approval with a limited indication for prevention of IFIs in ALL patients.

Matinas is in the process of conducting customary animal efficacy and pharmacokinetic / pharmacodynamic (“PK/PD”) studies and subsequent dynamic PK/PD modeling to establish the optimal dosing for its adaptive pivotal trial. The Company believes that by optimizing the dose and implementing this streamlined development plan, it has the potential to decrease the time and cost of its overall development program for MAT2203. Matinas expects to commence a pivotal Phase 2 adaptive-designed study in the first half of 2019. The first aspect of this pivotal Phase 2 trial will be an evaluation of the PK/PD and tolerability of MAT2203 in leukemia patients. The second part of this study will evolve to become an evaluation of PK/PD, efficacy and safety of MAT2203 versus placebo in ALL patients alone, where there is no standard of care. Based on the limited utility of currently approved antifungal therapies for the prevention of IFI due to significant drug-drug interactions or lack

of oral dosing mode, the Company believes that orally-administered MAT2203 has the potential to become a highly differentiated therapy in the antifungal field.

In addition to streamlining the overall clinical development program for MAT2203, the Company is also in the process of optimizing the formulation of MAT2203 through a series of concentration steps designed to significantly decrease the volume of our oral suspension with the goal of further minimizing the emergence of adverse events while improving patient compliance during the relevant course of therapy. The Company expects this work to be completed early in the second quarter of 2018 and that it will yield the formulation that will be used in all further preclinical and human clinical studies moving forward. The Company believes that the combination of ongoing formulation and dose optimization with the planned streamlined clinical development program will significantly mitigate the risks, cost and timeline for the approval of MAT2203.

The FDA has granted MAT2203 designations for Fast Track and Qualified Infectious Disease Product ("QIDP") for the treatment of invasive candidiasis and aspergillosis and for the prevention of IFIs in patients on immunosuppressive therapy.

While MAT2501, the Company's re-formulation of the aminoglycoside amikacin initially being developed for the treatment of non-tuberculous mycobacterium, remains an interesting development candidate for Matinas in an area of significant unmet medical need, Matinas does not plan to allocate significant resources to its development until such time as the Company secures additional financing.

STRATEGIC COLLABORATIONS UPDATE

Along with the advancement of MAT2203 toward approval, the second clear objective and focus for Matinas in 2018 is the advancement of discussions with strategic partners and the consummation of one or more collaborative agreements in areas of innovative medicine. The Company believes that its unique and proprietary cochleate lipid-crystal delivery technology platform can be used to formulate and re-formulate a wide variety of molecules and drugs which, (i) require delivery technology to effectively protect molecules and drugs in the body and could benefit from efficient delivery and cellular uptake by target cells, and (ii) are currently only available in IV formulations or (iii) otherwise experience significant toxicity-related adverse events. Leveraging its cochleate delivery technology, the Company believes it can develop a pipeline of product candidates, either internally or through robust strategic partnerships with pharmaceutical and biotech companies. Matinas has tested a range of pharmaceutical compounds reformulated by its cochleate delivery technology in proof-of-concept animal studies, including oligonucleotides (mRNA, siRNA, DNA plasmids), vaccines, anti-inflammatory agents, NSAIDs and atovaquone. The Company intends to invest the resources necessary to better understand and characterize the potential superiority of its delivery platform and is in the process of evaluating several prospective strategic collaborations to advance this platform technology.

CONFERENCE CALL AND WEBCAST INFORMATION

As previously announced, Matinas will host an update conference call and webcast for investors, analysts and other interested parties on Monday, March 19, 2018 at 8:30 a.m. ET. Joining CEO Jerome D. Jabbour on the call will be Dr. Raphael J. Mannino, the Company's Chief Scientific Officer and Dr. Matthew A. Wikler, a member of Matinas' Board of Directors

and an experienced infectious disease clinician with a demonstrated track record of developing anti-infective drugs.

The conference call and live webcast will be accompanied by presentation slides. To participate in the call, please dial (877) 407-5976 (domestic) or (412) 902-0031 (international). The live webcast and accompanying slides will be accessible on the Investors section of Matinas' website, www.matinasbiopharma.com, and will be archived for 60 days.

About MAT2203

MAT2203 is an orally-administered, encochleated formulation of amphotericin B (a broad spectrum fungicidal agent). Little to no clinical resistance has been reported to date with amphotericin B as compared to the rapidly emerging drug resistance seen in other antifungal therapies. Currently, IV-only administered amphotericin B is the only broad spectrum fungicidal available but its IV-delivery results in significant treatment-limiting side effects, including nephrotoxicity. The ability to provide amphotericin B orally using our proprietary and novel oral formulation may offer a new and promising alternative for patients and doctors. The FDA has designated MAT2203 as a Qualified Infectious Disease Product (QIDP) for the treatment of invasive candidiasis and the treatment of aspergillosis, as well as for the prevention of invasive fungal infections due to immunosuppressive therapy. MAT2203 is also being explored for treatment of additional anti-fungal indications and may have the potential for Orphan Drug Designation in certain of these indications.

About Matinas BioPharma

Matinas BioPharma is a clinical-stage biopharmaceutical company focused on developing innovative anti-infectives for orphan indications. The Company's proprietary, disruptive technology utilizes lipid-crystal nano-particle cochleates to nano-encapsulate existing drugs, making them safer, more tolerable, less toxic and orally bioavailable.

The Company's lead anti-infective product candidates, MAT2203 and MAT2501, position Matinas BioPharma to become a leader in the safe and effective delivery of anti-infective therapies utilizing its proprietary lipid-crystal nano-particle cochleate 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 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.

Investor Contact
Jenene Thomas
Jenene Thomas Communications, LLC
Phone: +1 (908) 938-1475
Email: jenene@jtcir.com

Source: Matinas BioPharma Holdings, Inc.

Source: Matinas BioPharma Holdings, Inc.