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Matinas BioPharma's MAT2203 -- Encochleated Formulation of Amphotericin B -- Shows Potential to Target and Penetrate Tissue Infected With Invasive Candidiasis in Data Presented at ICAAC/ICC 2015

Lipid-Crystal Nano-Encapsulated Technology Delivers High Concentrations to Infected Tissue With Amphotericin B Levels in Plasma Undetectable

BEDMINSTER, N.J., Sept. 18, 2015 (GLOBE NEWSWIRE) --Matinas BioPharma Holdings, Inc. (OTCQB:MTNB), a clinical-stage biopharmaceutical company focused on identifying and developing safe and effective antifungal and anti-bacterial therapeutics for the treatment of serious and life-threatening infections, today presented data from a preclinical study demonstrating tissue targeting and penetration potential of MAT2203, an orally-administered, encochleated formulation of the broad spectrum antifungal medication amphotericin B (AmB).

The poster, titled "Oral Dosing of Encochleated Amphotericin B (CAmB): Rapid Drug Targeting to Infected Tissues in Mice with Invasive Candidiasis," was presented at the American Society for Microbiology's Interscience Conference of Antimicrobial Agents and Chemotherapy and International Society of Chemotherapy's International Congress of Chemotherapy and Infection (ICAAC/ICC 2015) scientific meeting in San Diego.

MAT2203 is an encochleated formulation of AmB designed for targeted oral delivery to infected tissue without the associated toxicity of intravenous administration. In the preclinical study, mice were infected with cells of *Candida albicans*. After infection, they were treated for 14-days with control, DAmB (Amphotericin B deoxycholate) 2 mg/kg intraperitoneal, or CAmB (MAT2203) 10 mg/kg oral. The results of the study show that in *Candida*-infected mice MAT2203 is taken up from the gastrointestinal (GI) tract resulting in significant concentrations of AmB in targeted tissues, but undetectable AmB levels in plasma.

"These data show that our orally delivered lipid-crystal nano-particle cochleate technology has the potential to achieve rapid AmB tissue penetration at effective antimicrobial concentrations several days ahead of the injected form of AmB, further solidifying the evidence for the targeted delivery feature of our unique technology. Based on our formal 28-day animal toxicology studies, this technology also has the potential to reduce the toxicity of

strong, powerful anti-fungal medications like amphotericin B and make them available to more patients, without the associated harmful side effects seen with traditional drug delivery systems," said Roelof Rongen, President and Chief Executive Officer of Matinas BioPharma. "Because there has been little to no clinical resistance reported to date with amphotericin B, as compared to the rapidly emerging drug resistance seen in other anti-fungal therapies, we look forward to making these important drugs available to more patients in the battle against superbugs."

Matinas BioPharma is developing MAT2203 for the treatment of serious and life-threatening fungal infections in collaboration with the National Institutes of Health/National Institute of Allergy and Infectious Disease (NIH/NIAID). A Phase 2a NIH/NIAID-funded clinical study with MAT2203 in patients with refractory mucocutaneous candidiasis is expected to commence in coming months, with data anticipated in 2016.

Last month, the U.S. Food and Drug Administration (FDA) designated MAT2203 as a Qualified Infectious Disease Product (QIDP) with Fast Track status. MAT2203 is also being explored for treatment of additional anti-fungal indications including cryptococcal meningoencephalitis, and aspergillosis, and it may have the potential for Orphan Drug Designation in certain indications.

About Matinas BioPharma

Matinas BioPharma is a clinical-stage biopharmaceutical company focused on identifying and developing safe and effective broad spectrum antifungal and anti-bacterial therapeutics for the treatment of serious and life-threatening infections. The Company's proprietary, disruptive technology utilizes lipid-crystal nano-particle cochleate to nano-encapsulate existing drugs, making them safer, more tolerable, less toxic and orally available. The Company's lead drug candidate is MAT2203, an orally-administered, encochleated formulation of amphotericin B (a broad spectrum fungicidal agent). The Company also intends to file an investigational new drug application (IND) for MAT2501, which is an orally-administered, encochleated formulation of amikacin (a broad spectrum aminoglycoside antibiotic agent) for gram-negative and intracellular bacterial infections. In addition, the Company is exploring development and partnership options for MAT9001, a prescription-only omega-3 fatty acid-based composition under development for hypertriglyceridemia, which has shown superiority versus Vascepa® (icosapent ethyl) in reducing serum triglycerides, Total- and Non-HDL-Cholesterol, apolipoproteins and PCSK9 levels.

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 ability to obtain required regulatory approval, the Company's ability to identify and pursue development and partnership opportunities for its MAT9001 on favorable terms, if at all, 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 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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