March 30, 2015

Matinas BioPharma Completes Enrollment in First Human Trial of MAT9001

– Study Steering Committee Recommends Early Completion of Enrollment Due to Adequate Power in Study to Demonstrate Study Endpoints –

– Top-line Data Expected to be Reported in Second Quarter 2015 –

BEDMINSTER, N.J., March 30, 2015 (GLOBE NEWSWIRE) -- Matinas BioPharma Holdings, Inc. ("Matinas BioPharma" or the "Company") (OTCQB:MTNB), a clinical-stage biopharmaceutical company focused on the development and commercialization of lipid-based prescription therapeutics for the treatment of infectious diseases and cardiovascular and metabolic conditions, today announced that upon a scheduled interim review, the study's Steering Committee recommended to stop enrollment early in its first-in-human study of investigational drug MAT9001 due to the study having enrolled a sufficient number of subjects (42 to date) necessary to demonstrate primary and secondary endpoints. The Company's initial study is being conducted in Canada and is a two-way crossover pharmacokinetic and pharmacodynamic (PK/PD) study of MAT9001 versus an active prescription omega-3 medication comparator in subjects with high triglycerides (200-499 mg/dL).

The PK/PD clinical study was designed to evaluate approximately 50 subjects with high triglycerides to demonstrate better bioavailability and pharmacologic activity than the active comparator. The Steering Committee for this clinical study, comprised of Drs. Christie M. Ballantyne (Baylor College of Medicine), Kevin C. Maki (DePaul University) and William F. Keane (University of Minnesota, retired), recommended upon a planned interim review of the study data that the trial has adequate power and that no further subjects need to be enrolled to demonstrate the study's primary and secondary endpoints and that this interim review indicates that the study objectives have been met. The Company will complete the per-protocol treatment regimen for the enrolled subjects and expects to report top-line data from this PK/PD study in the second quarter of 2015.

"We are excited to be able to stop enrollment in our first human trial of MAT9001 with fewer than the originally planned number of subjects. We are looking forward to the completion of the study and the announcement of the top-line results in the near-term," commented Roelof Rongen, President and Chief Executive Officer of Matinas BioPharma.

MAT9001 is Matinas BioPharma's lead drug candidate in the cardiovascular/metabolic disease field, with an initial indication for the treatment of severe hypertriglyceridemia (TG≥500 mg/dL). MAT9001 is a uniquely engineered, prescription-only omega-3 fatty acid medication comprising docosapentaenoic acid (DPA) and other omega-3 fatty acids. Matinas BioPharma has specifically designed MAT9001 to provide a differentiated pharmacotherapy for the treatment of dyslipidemia.

About MAT9001

MAT9001 is a proprietary prescription-only omega-3 fatty acid-based composition, comprising docosa-pentaenoic acid (DPA) and other omega-3 fatty acids, which is under development for therapeutic applications with severe hypertriglyceridemia (TG>500 mg/dL) as the lead indication. Promising pre-clinical studies with DPA and MAT9001 indicate distinctive therapeutic response properties. In the fourth quarter of 2014, the Company filed an IND for MAT9001 with FDA and anticipates initiating a Phase 3 registration program pending two small studies and FDA agreement on the Phase 3 protocol. The Company believes that its development program and related clinical investigations may yield an improved therapeutic profile compared to existing therapies, based on MAT9001's differentiating mechanistic features associated with its unique composition.

About Matinas BioPharma

Matinas BioPharma is a clinical-stage biopharmaceutical company with a focus on identifying and developing novel lipid-based pharmaceutical products for the treatment of infective diseases and cardiovascular and metabolic conditions. Led by an experienced management team and a board of directors with a history of building pharmaceutical companies, Matinas is focused on creating highly differentiated, safe and efficacious therapies utilizing its expertise in drug formulation and development in order to address significant unmet medical needs. Recent additions to its product pipeline, including 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 formulations. 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 product development, clinical and regulatory timelines, market opportunity, cash flow 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.

CONTACT: Investor and Media Contact
Jenene Thomas
Investor Relations and Corporate Communications Advisor
Jenene Thomas Communications, LLC
Phone: +1 (908) 938-1475
Email: jthomas@matinasbiopharma.com

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