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Matinas BioPharma's MAT9001 Demonstrates Superiority in Reducing Triglycerides, Lipids, Apolipoproteins and PCSK9 Levels in Head-to-Head Study With Vascepa(R)

PK/PD Trial Data Presented at the National Lipid Association Scientific Sessions

BEDMINSTER, N.J., June 15, 2015 (GLOBE NEWSWIRE) --[Matinas BioPharma Holdings, Inc.](#) (OTCQB:MTNB), a clinical-stage biopharmaceutical company, announced the presentation of data from a head-to-head study that showed [MAT9001](#), a prescription-only omega-3 fatty acid-based composition under development for the treatment of hypertriglyceridemia, demonstrated superiority versus Vascepa® (icosapent ethyl) in reducing lipids, triglycerides, apolipoproteins and PCSK9 levels.

The poster, "*Effects of MAT9001, an Omega-3 Fatty Acid Drug, Compared with Eicosapentaenoic Acid Ethyl Esters, on Triglycerides, Lipoprotein Cholesterol and Related Variables in Hypertriglyceridemic Subjects*," was accepted as a late-breaker and presented on Saturday, June 13, 2015, at [the National Lipid Association Scientific Sessions](#). It was presented by lipid specialist [Kevin C. Maki, Ph.D.](#), Founder and Chief Science Officer of the Midwest Center for Metabolic & Cardiovascular Research.

The data were based on a pharmacokinetic and pharmacodynamics, open-label crossover study designed to compare the bioavailability and effects of MAT9001 versus Vascepa, ethyl ester of eicosapentaenoic acid (EPA), which was approved by the U.S. Food and Drug Administration in 2012 as an adjunct to diet to reduce triglyceride (TG) levels in adult patients with severe (≥ 500 mg/dL) hypertriglyceridemia.

"These data demonstrate that MAT9001, a unique omega-3 fatty acid composition with docosapentaenoic acid (DPA), has the potential to expand and to greatly improve therapeutic options for patients with high triglyceride levels and high cholesterol levels in the fight against cardiovascular disease," said Roelof Rongen, President and Chief Executive Officer of Matinas BioPharma. "We are particularly heartened by these results because, unlike typically healthy subjects in many PK/PD studies, all of our study subjects had triglyceride levels above 200 mg/dL, considered high by medical standards."

MAT9001 is Matinas BioPharma's lead cardiovascular/metabolic disease drug candidate, a purposefully designed omega-3 fatty acid composition and delivery system that has the

potential to be a best-in-class product for the treatment of dyslipidemia. The study also demonstrated that MAT9001 is the first orally-administered dyslipidemia product reported to significantly reduce PCSK9 in patients.

Results and Trial Design

MAT9001 achieved a greater median percentage reduction from baseline to trial end in total cholesterol and a significantly greater median percentage reduction in four of six lipid measures, including total cholesterol, when compared to Vascepa:

- MAT9001 significantly reduced median TG levels by 33.2 percent compared to 10.5 percent for Vascepa (P-Value <0.001);
- MAT9001 significantly reduced median VLDL-C (very low density lipoprotein cholesterol) levels by 32.5 percent compared to 8.1 percent for Vascepa (P-Value <0.001);
- MAT9001 significantly reduced median non-HDL-C (non-high-density cholesterol) levels by 8.8 percent compared to 4.6 percent for Vascepa (P-Value = 0.027);
- MAT9001 reduced median HDL-C (high-density cholesterol) levels by 11.3 percent compared to 11.1 percent for Vascepa (P-Value = 0.337);
- MAT9001 reduced median LDL (low-density lipoprotein cholesterol) levels by 2.4 percent compared to 4.3 percent for Vascepa (P-Value = 0.116);
- MAT9001 significantly reduced median total cholesterol levels by 9 percent compared to 6.2 percent for Vascepa (P-Value = 0.013).

MAT9001 also outperformed Vascepa in reductions in apolipoproteins (apo) and PCSK9 as compared to baseline:

- MAT9001 reduced median apolipoprotein B levels by 3.8 percent compared to 0.7 percent for Vascepa (P-Value = 0.058);
- MAT9001 significantly reduced median apolipoprotein AI levels by 15.3 percent compared to 10.2 percent for Vascepa (P-value = 0.003);
- MAT9001 significantly reduced median apolipoprotein CIII levels by 25.5 percent compared to 5 percent for Vascepa (P-Value = 0.006);
- MAT9001 significantly reduced median PCSK9 levels by 12.3 percent compared to an 8.8 percent increase in PCSK9 levels for Vascepa (P-Value <0.001).

The comparator study was conducted in 42 patients with high triglyceride levels. Study subjects had fasting TG levels of 200 to 400 mg/dL without lipid altering therapy, or fasting TG levels of 200 to 350 mg/dL if they were on a stable-dose statin monotherapy. Pre-treatment median values for lipids, triglycerides, apolipoproteins and PCSK9 levels were measured. Patients were randomized and put on MAT9001 or Vascepa for 14 days, then washed out over five weeks, and then crossed over to Vascepa or MAT9001 for 14 days. Forty patients completed the trial.

MAT9001 met its primary endpoint in this study. Statistical analysis demonstrated superiority of MAT9001 over Vascepa for omega-3 bioavailability (baseline adjusted AUC and C_{max} , approximately 6-fold higher with MAT9001 on day 14, with very high statistical significance).

Vascepa is indicated for use with a lipid-lowering diet to reduce very high triglycerides in adult patients and is a trademark of Amarin Pharmaceuticals Ireland Ltd.

About the National Lipid Association

The [National Lipid Association](#) (NLA) is a nonprofit, multidisciplinary medical society focused on enhancing the practice of lipid management in clinical medicine. The NLA represents more than 3,500 members in the United States and provides continuing medical education for physicians and other healthcare professionals to advance professional development and attain certification in clinical lipidology.

About MAT9001

[MAT9001](#) is a proprietary prescription-only omega-3 fatty acid-based composition, comprising docosapentaenoic 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, Matinas BioPharma filed an IND for MAT9001 with FDA. 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 principal focus on identifying and developing novel and targeted pharmaceutical products for the treatment of various infectious diseases, with additional programs developing therapies to treat cardiovascular and metabolic conditions. Led by an experienced management team and a board of directors with a history of building pharmaceutical companies, Matinas BioPharma 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. 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 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 strategic focus and the future development of its product candidates 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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