MiNA Therapeutics

PRESS RELEASE

Marina Biotech and MiNA Therapeutics Announce License Agreement for the Development of saRNA-based Therapeutics

Bothell, WA and San Diego, CA – 18 December, 2014 –
Marina Biotech, Inc. (OTCQB: MRNA), a leading nucleic acid-based drug discovery and development company focused on rare diseases, and MiNA Therapeutics Limited, the pioneer in RNA activation therapeutics, announced today that they have entered into a license agreement regarding the development and commercialization of small activating RNA (saRNA) based therapeutics utilizing MiNA's proprietary oligonucleotides and Marina's novel SMARTICLES nucleic acid delivery technology. MiNA will have full responsibility for the development and commercialization of any products arising under the Agreement and Marina Biotech will support pre-clinical and process development efforts. Under terms of the Agreement, Marina Biotech could receive up to $50 million in total upfront, clinical and commercialization milestone payments, as well as royalties on sales, based on the successful outcome of the collaboration. Further terms of the Agreement were not disclosed.

"MiNA is focused on rapidly translating the benefits of saRNA therapeutics into the clinic," said Robert Habib, CEO of MiNA Therapeutics. "SMARTICLES have demonstrated highly efficient delivery of saRNAs to the liver and solid tumors along with a strong clinical track record and robust manufacturing. The formulation of saRNAs with SMARTICLES both accelerates and de-risks the development of MiNA's technology platform."

"SMARTICLES is the most widely licensed delivery technology in the nucleic acid therapeutics sector now licensed to deliver single-stranded DNA oligonucleotides, double-stranded microRNA mimics and both single and double-stranded small activating RNA," stated J. Michael French, president and CEO of Marina Biotech. "In addition, I believe it is also the most widely used delivery technology in human clinical studies for the development of nucleic acid therapeutics. We are excited to be partnered with the pioneer in RNA activation therapeutics and look forward to the rapid advancement of MiNA's compounds into human clinical development. We're confident the world class team at MiNA will be successful in their endeavors."

About SMARTICLES Clinical Experience
Clinical achievements with SMARTICLES represent the combined experiences (a total of approximately 100 patients) of licensees ProNAi Therapeutics, Inc., Plymouth, MI and Mirna Therapeutics, Inc., Austin, TX.

PNT2258, from ProNAi Therapeutics, is a first-in-class, 24-base, single-stranded, chemically-unmodified DNA oligonucleotide drug targeting BCL2. Data from an ongoing pilot Phase II trial of PNT2258 were

reported recently at the 56th Annual Meeting of the American Society of Hematology (ASH). The investigators for the study concluded that:

- PNT2258 treatment results in significant, durable responses in patients with relapsed or refractory non-Hodgkin's Lymphoma (r/r NHL) with eleven of the thirteen (11/13) patients treated achieving clinical benefit, with ongoing Progression Free Survival (PFS) extending to 18 months and beyond.
- In particular, all four of the patients (4/4) with DLBCL responded to PNT2258, with three patients achieving complete responses (CR) and one patient achieving a partial response (PR), with durations extending to greater than 500 days.
- Durable and clinically meaningful CR's and PR's were achieved in subjects with aggressive disease, such as Richter's transformation and Burkitt's-like DLBCLPNT2258 therapy is safe and very well tolerated with dosing periods up to and exceeding 18 months.

Mirna Therapeutics' clinical compound, MRX34, is a double-stranded microRNA "mimic" of the naturally occurring tumor suppressor miR-34, which inhibits cell cycle progression and induces cancer cell death. Data from an ongoing Phase 1 clinical trial shows that MRX34 has a manageable safety profile in patients with advanced primary liver cancer (hepatocellular carcinoma), other solid tumors with liver metastasis, and hematological malignancies. A maximum tolerated dose (MTD) was established at 110 mg/m2 for MRX34 administered twice weekly for three weeks followed by one week off. Dose escalation is on-going for a second dosing regimen wherein MRX34 is administered daily for five consecutive days followed by two weeks off. While this Phase 1 study is intended to investigate safety, tolerability, pharmacokinetics, and dosing regimens, treatment with MRX34 has provided early signals of clinical activity in advanced cancer patients with primary liver, neuroendocrine, colorectal and small cell lung cancers, as well as diffuse large B-cell lymphoma.

About MiNA Therapeutics Limited and RNA Activation

MiNA Therapeutics is a biopharmaceutical company pioneering the discovery and development of a new class of medicines that selectively up-regulate proteins inside patient cells. MiNA's proprietary RNA activation (RNAa) technology platform enables up-regulation of beneficial proteins by the selective and long lasting transcriptional activation of a target gene. RNAa has unique potential to target diseases that are untreatable with today's conventional medicine. MiNA's novel drugs, termed small activating RNAs (saRNAs), leverage existing RNA delivery technologies to accelerate the development of drug candidates. The company is developing MTL-CEBPA, a first in class treatment for advanced liver cancer. MiNA was founded in 2008 by pioneering researchers John Rossi, Nagy Habib and Pal Saetrom. The company is privately held and located in London, United Kingdom. To learn more visit www.minatx.com.

About Marina Biotech, Inc.

Marina Biotech is an oligonucleotide therapeutics company with broad drug discovery technologies providing the ability to develop proprietary single and double-stranded nucleic acid therapeutics including siRNAs, microRNA mimics, antagomirs, and antisense compounds, including messengerRNA therapeutics. These technologies were built via a roll-up strategy to discover and develop different types of nucleic acid therapeutics in order to modulate (up or down) a specific protein(s) which is either being produced too much or too little thereby causing a particular disease. We believe that the Marina Biotech technologies have unique strengths as a drug discovery engine for the development of nucleic acid-based therapeutics for rare and orphan diseases. Further, we believe Marina Biotech is the only company in the sector that has a delivery technology in human clinical trials with differentiated classes of payloads, through licensees ProNAi Therapeutics and Mirna Therapeutics, delivering single-stranded and double-stranded nucleic acid payloads, respectively. Our novel chemistries and other delivery technologies have been validated through license

agreements with Roche, Novartis, Monsanto, and Tekmira. The Marina Biotech pipeline currently includes a clinical program in Familial Adenomatous Polyposis (a precancerous syndrome) and a preclinical program in myotonic dystrophy. Marina Biotech's goal is to improve human health through the development of RNAi- and oligonucleotide-based compounds and drug delivery technologies that together provide superior therapeutic options for patients. Additional information about Marina Biotech is available at www.marinabio.com.

Marina Biotech Forward-Looking Statements

Statements made in this news release may be forward-looking statements within the meaning of Federal Securities laws that are subject to certain risks and uncertainties and involve factors that may cause actual results to differ materially from those projected or suggested. Factors that could cause actual results to differ materially from those in forward-looking statements include, but are not limited to: (i) the ability of Marina Biotech to obtain additional funding; (ii) the ability of Marina Biotech to attract and/or maintain manufacturing, research, development and commercialization partners; (iii) the ability of Marina Biotech and/or a partner to successfully complete product research and development, including preclinical and clinical studies and commercialization; (iv) the ability of Marina Biotech and/or a partner to obtain required governmental approvals; and (v) the ability of Marina Biotech and/or a partner to develop and commercialize products prior to, and that can compete favorably with those of, competitors. Additional factors that could cause actual results to differ materially from those projected or suggested in any forward-looking statements are contained in Marina Biotech's most recent filings with the Securities and Exchange Commission. Marina Biotech assumes no obligation to update or supplement forward-looking statements because of subsequent events.

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