News Release

Marina Biotech Expands Global Patent Protection of Clinical Stage Nucleic Acid Delivery Technologies

Company granted EP process patent and four national patents covering its tkRNAi, SMARTICLES and DILA2 delivery technologies

BOTHELL, WA (April 23, 2015) – Marina Biotech, Inc. (OTCQB: MRNA), a leading nucleic acid-based drug discovery and development company focused on rare diseases, announced today it has expanded its U.S. patent protection for the company's TransKingdom RNAi (*tk*RNAi) technology and has been granted additional patent rights for its SMARTICLES and Di-terminal Amino Acid Lipids (DILA2) nucleic acid delivery technologies. Both the *tk*RNAi and SMARTICLES technologies support on-going clinical development programs. The company has received an EP process patent for liposome synthesis and preparation, an allowance in Japan for SMARTICLES formulations, as well as allowances in Japan and Israel for the company's DILA2 nucleic acid delivery technology. Marina Biotech's global intellectual property estate now contains over 150 issued and allowed patents and more than 120 pending U.S. and foreign patent applications.

"Marina Biotech continues to rapidly expand its global patent portfolio to protect one of the broadest nucleic acid drug discovery platforms in the industry. In particular, these recent patents protect two of our key clinical stage delivery technologies, SMARTICLES and *tk*RNAi, which we believe provide us unparalleled delivery capability within the sector," said J. Michael French, President & CEO of Marina Biotech. "The *tk*RNAi system is the only orally administered RNAi-based therapeutic in clinical development. While SMARTICLES is one of the most versatile delivery systems in clinical development having demonstrated: (1) effective delivery of single-stranded and double-stranded nucleic acids, (2) delivery to cell nucleus and cell cytoplasm, and (3) delivery to tumors outside the liver. SMARTICLES have been dosed in over 100 patients in multiple Phase I and II studies to make it one of the most widely adopted clinical stage delivery technologies in the RNA therapeutic sector."

***tk*RNAi Patent (USA)**

TransKingdom RNAi (*tk*RNAi) are non-pathogenic bacteria engineered to produce, deliver, and release various therapeutic molecules including interfering RNA mediators, such as short hairpin RNA and microRNA mimics to targeted tissue. Marina Biotech's tkRNAi technology includes **CEQ508**, the only orally administered nucleic acid therapeutic in clinical development. CEQ508 has been orally administered in two cohorts of a four cohort dose-escalating study in a Phase 1 human clinical trial in Familial Adenomatous Polyposis (FAP) patients.

The claims of Marina Biotech's issued patent for *TransKingdom* RNA™ interference (*tk*RNAi) delivery technology in the United States (US Pat. No. 9,012,213) expand upon the nature of the fundamental invasive bacterium for delivering RNA therapeutics, as well as the specific sequence and function of the prokaryotic promoter contained within the delivery plasmid. The Company continues to pursue new aspects of the IP coverage for this technology. The tkRNAi technology has existing patent protection in Europe, Japan, Korea, Australia, and Canada.

SMARTICLES® Patent (Japan)

SMARTICLES® are amphoteric liposomes composed of unique combinations of anionic and cationic lipids that work together to enable cell uptake and to provide serum stability and pH-triggered endosomal escape. SMARTICLES is the only technology delivering both single-stranded (**PNT2258**) and double-stranded (**MRX34**) nucleic acid payload in ongoing U.S. clinical trials conducted by licensees, ProNAi Therapeutics, Inc. and Mirna Therapeutics, Inc., respectively.

The claims of Marina Biotech's patent for licensed SMARTICLES® delivery technology allowed in Japan (Japan Patent Application No. 2010-528325) cover delivery technologies based on SMARTICLES amphoteric liposomes adapted for the release of therapeutic cargos, including the company's RNA-based therapeutics having conformationally restricted nucleotides (CRN).

DILA2 Patent (Japan, Europe, and Israel)

Di-terminal Amino Acid Lipids (DILA2) are proprietary molecules composed of unique combinations of head groups and terminal groups on a central amino acid having unique cone angles for formation of small, cargo-carrying liposomes. DILA2 technology is designed to permit inclusion of peptides into delivery technologies to improve a variety of delivery characteristics including encapsulation of nanoparticles, cellular uptake, endosomal release, and cell/tissue targeting.

The patent claims granted in Japan (Japan Patent Application No. 2012-538001) cover DILA2 compounds having double bonds in chains on each terminus of the amino acid, a preferred structure for lipid packing and liposome formation. The claims of Marina Biotech's patent for DILA2 liposomal delivery technology in Israel (Israel Ser. No. 201785) broadly cover DILA2 compounds, as well as compositions containing therapeutic nucleic acids, and uses for delivering drugs to cells, tissues, organs, and subjects having a wide range of diseases.

The claims of Marina Biotech's process patent for liposome formation in Europe (EP Patent 2,349,210) broadly cover the synthesis and formation of liposomes for RNA delivery utilizing DILA2 molecules. The Company has filed continuing coverage for additional formulations with other lipids, for example, the lipids for the Company's SMARTICLES technology.

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, MiNA, 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.

For media inquiries:
Ryan Ferrell
ryan.ferrell@hdmz.com
Desk/Mobile: (312) 506-5202

For partnership inquires:
J. Michael French
President and CEO
Marina Biotech, Inc.
admin@marinabio.com
(425) 892-4322