



Mirna Therapeutics Reports Notice of Allowance from USPTO Related to the Clinical Application of miR-34a, a Key Tumor Suppressor miRNA

AUSTIN, TX – April 6, 2011. Mirna Therapeutics, Inc. (“Mirna”) announced today that the United States Patent and Trademark Office has allowed patent claims related to the therapeutic application of the potent tumor suppressor microRNA, mir34a. The currently allowed claims describe methods of reducing cancer cell viability by introducing mir-34a into cancerous T-cells or lung, prostate, or skin cancer cells. The patent allowance stems from Mirna’s patent application 60/627,171, filed November 2004, which was one of the earliest patent filings describing clinical applications of microRNAs.

Scientists at Mirna have shown that miR34a functions as a key tumor suppressor and affects multiple cancer-related genes and pathways, such as those involved in cell viability, cell senescence and apoptosis. Using transgenic and xenograft models of cancer, scientists at Mirna, as well as leading cancer researchers at academic institutions, have demonstrated that therapeutic candidates featuring the miR-34a sequence significantly inhibit tumor development, tumor growth, and metastasis. Additional studies have shown that the altered expression of miR-34a is important in cancer stem cell development. Three recent peer-reviewed publications by Mirna scientists describe therapeutic opportunities for miR-34a (Wiggins et al, *Cancer Res* 2010; 70; 5923-30; Liu et al, *Nature Medicine* 2011; 17; 211-5; Trang et al, *Mol Therapy* 2011; Mar epub).

“Close to 100 peer-reviewed publications have detailed the involvement of miR-34 in cancer development. We are very excited about the potential of miR-34a based therapies being used either alone or in combination with traditional and/or targeted therapies to enhance cancer patient care,” said Paul Lammers, M.D., President and CEO. “This allowance from the USPTO provides further evidence of the critical position that the Company holds in the burgeoning field of miRNA-based therapies.”

About microRNA

miRNAs are approximately 20-25 nucleotides long and affect gene expression by interacting with messenger RNAs. Unlike siRNAs, miRNAs are encoded in the human genome and are used as natural regulators of global gene expression. More than 900 miRNAs are encoded in the human genome and comprise approximately 2% of all mammalian genes. Since each miRNA appears to regulate the expression of tens to hundreds of different genes, miRNAs can function as “master-switches,” efficiently regulating and coordinating multiple cellular pathways and processes. By coordinating the expression of multiple genes, miRNAs are responsible for guiding proper embryonic development, immunity, inflammation, as well as cellular growth and proliferation. Misregulation of miRNAs appears to play a fundamental role in many cancers and replacement of down regulated miRNAs in tumor cells results in a positive therapeutic response.

About Mirna Therapeutics

Mirna Therapeutics is a biotechnology company focused on the development and commercialization of microRNA (miRNA) therapeutics. The Company has a substantial body of pending intellectual property around miRNAs developed by its own scientists as well as in-licensed from other institutions. Mirna's IP portfolio contains >300 miRNAs with applications in oncology and other diseases. Oncology-directed miRNAs include those that are key tumor suppressors in cancer, such as miR-34 and let-7 that have proven to block tumor growth in a number of different pre-clinical animal studies. The Company, founded in 2007, is located in Austin, Texas. For more information, visit www.mirnarx.com.

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