



## Mirna Therapeutics Announces Allowance of Multiple Patents for Therapeutic Use of Tumor Suppressor miRNAs

**AUSTIN, TX – July 20, 2011**– Mirna Therapeutics, Inc. (“Mirna”) announced today that the United States Patent and Trademark Office has allowed multiple patent claims related to the therapeutic application of several tumor suppressor microRNAs (miRNAs). These and earlier allowances for miR-34 and let-7 stemming from the Company’s broad and early patent filings dating back to 2004 are enabling Mirna to establish a major intellectual property position in the burgeoning field of miRNA-based therapeutics.

The allowed claims include methods for reducing cancer cell proliferation by introducing mimics of miR-192 or miR-215 into cancer cells. Additional claims are directed to the use of miR-192 and miR-215 for specifically reducing proliferation of breast, cervical, colon, or skin cancer cells, and to methods for reducing cancer cell viability and inducing apoptosis by introducing miR-192 mimics into lung cancer cells. MicroRNAs 215 and 192 play critical roles in the p53 tumor suppressor and are often differentially expressed in the tumors of cancer patients which results in the improper regulation of multiple cancer genes and pathways.

“Although miR-215 and miR-192 haven’t received the same level of public disclosure as other tumor suppressor miRNAs like miR-34 and let-7, we have found that both miR-215 and miR-192 exhibit anti-cancer activities that are as potent as any of the tumor suppressor miRNAs in our portfolio,” said David Brown, Ph.D., Director of Research at Mirna Therapeutics. “We are very excited about the clinical potential of these two miRNAs and look forward to their application in cancer patient care.”

Separately, Mirna received notice of allowance for patent claims related to administering miRNA combinations to cancer patients for inhibiting prostate or liver cancer cell proliferation. The allowed claims describe the use of miR-124 in combination with miR-34a, let-7b, let-7c, or let-7g for inhibiting cancer cell proliferation. Additional claims are directed to uses of the miRNA combinations with specific liver and prostate carcinoma types and to specific pharmaceutical formulations of the miRNA combinations.

### About microRNAs

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](http://www.mirnarx.com)



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