Mirna Therapeutics Announces Interim Phase 1 Safety Data on Lead Product Candidate MRX34 at AACR Annual Meeting

--MRX34 found to have manageable safety profile during initial dose-escalation phase of clinical trial in patients with unresectable primary liver cancer or solid cancers with liver involvement--

Austin, Texas – April 8, 2014 – Mirna Therapeutics (Mirna), a private, clinical stage biopharmaceutical company focused on the development of microRNA-based oncology therapeutics, today announced interim safety data from a multicenter, open-label Phase 1 clinical trial of MRX34 for the treatment of patients with unresectable primary liver cancer or solid cancers with liver involvement. The data show that MRX34 has a manageable safety profile with only one incident of a dose-limiting toxicity observed to date. The findings were presented by Dr. Muhammad Shaalan Beg, assistant professor of Internal Medicine and co-leader of the gastro-intestinal oncology group at University of Texas Southwestern Harold C. Simmons Cancer Center in Dallas, Texas, during an oral presentation at the American Association for Cancer Research (AACR) Annual Meeting taking place in San Diego, CA from April 5-9, 2014.

"We are pleased with the support Mirna has received from the participating oncology research centers, the speed of patient enrollment and the manageable safety profile observed to date with MRX34, the first microRNA mimic in clinical trials," said Paul Lammers, M.D., president and chief executive officer of Mirna.

About the Phase 1 Trial

The Phase 1 MRX34 study design consists of an initial dose-escalation phase of approximately 30 patients, followed by an expansion phase of approximately 18 additional patients after the recommended Phase 2 dose has been identified. MRX34 is administered intravenously (IV) twice a week for three weeks with one week off, during 28-day cycles, until disease progression or intolerance. Tumor response is measured by RECIST or modified RECIST (primary liver cancer) and evaluated by Computed Tomography/Magnetic Resonance Imaging (CT/MRI) every eight weeks. The expansion phase will include tumor biopsies and assessment of biological effect of MRX34. Data from the first 26 patients in the dose-escalation phase are included in the interim analysis.

The primary objectives of the clinical trial are to establish the maximum tolerated dose and the recommended Phase 2 dose for future clinical trials. The secondary objectives are to assess the safety, tolerability and pharmacokinetic profile of MRX34 after IV dosing as well as to assess pharmacodynamics and clinical activity of MRX34.

In the interim analysis, treatment emergent adverse events primarily consisted of infusion reactions, including fever, chills, fatigue, thrombocytopenia, diarrhea, back and flank pain, nausea, and neutropenia. The addition of dexamethasone, a corticosteroid, premedication with higher doses of MRX34 was found to ameliorate infusion reactions.

About MRX34
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. Mirna filed its first Investigational New Drug (IND) Application with the U.S. Food and Drug Administration (FDA) for MRX34 in early 2013 and initiated the ongoing Phase 1 clinical trial in April 2013, making MRX34 the first microRNA replacement therapy product candidate to enter a clinical trial in cancer. MRX34 is delivered using the Smarticles® liposomal delivery formulation, in-licensed from Marina Biotech.

This clinical trial was supported in part by a commercialization grant from the Cancer Prevention and Research Institute of Texas (CPRIT).

Additional information on the Phase 1 clinical trial and enrollment can be found at clinicaltrials.gov (http://clinicaltrials.gov/ct2/show/NCT01829971).

About Mirna Therapeutics, Inc.
Mirna Therapeutics, Inc. (Mirna) is a private biotechnology company focused on the development and commercialization of microRNA (miRNA) based therapeutics. In 2013, the Company was the first to launch a clinical trial of a miRNA mimic drug candidate for the treatment of cancer. Mirna's intellectual property portfolio contains numerous issued patents and patent applications, pertaining to more than 300 miRNAs with applications in oncology and other diseases. Oncology-directed miRNAs include key tumor suppressors in cancer, such as miR-34 and let-7, which inhibited tumor growth in a number of preclinical studies. The Company, founded in 2007 and located in Austin, TX, has received significant funding from New Enterprise Associates, Pfizer Venture Investments, Sofinnova Ventures and other private investors. Mirna is also funded by the State of Texas, both through the State's Emerging Technology Fund, and from CPRIT.

For more information, visit www.mirnarx.com.

Contact:
Kelly France, Ph.D.
kfrance@brewlife.com
415.946.1076