News Release

FOR IMMEDIATE RELEASE

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Dicerna Pharmaceuticals Appoints Life Sciences Executive James B. Weissman to Chief Business Officer

WATERTOWN, Mass., Jan. 4, 2012 – Dicerna Pharmaceuticals, Inc. (Dicerna), a second generation RNA interference (RNAi) company developing novel therapeutics utilizing its proprietary Dicer Substrate Technology™ and Dicer Substrate siRNA (DsiRNA) molecules, today announced the appointment of James B. Weissman to chief business officer. Mr. Weissman joins Dicerna with more than 25 years in the life sciences industry and will be responsible for corporate development, strategy and other operational functions.

"We are pleased to welcome Jim to Dicerna's management team," said Douglas M. Fambrough, Ph.D., chief executive officer of Dicerna. "Jim is a seasoned pharmaceutical executive with a proven skill set in business development, marketing, product development and strategic planning. We look forward to leveraging his unique expertise as we continue to innovate and accelerate our business development and partnering strategy focused on our Dicer Substrate Technology."

Mr. Weissman is a life sciences executive with extensive international management experience in biotech and pharmaceutical general management, product development, licensing, business development, marketing and M&A activities. He joins Dicerna from MannKind Corporation (Nasdaq: MNKD), where he was vice president of business development, responsible for leading the company's activities related to licensing, new products and strategic planning. Prior to MannKind, Mr. Weissman held leadership positions in both business development and marketing at Pfizer Pharmaceuticals, Inc. in Tokyo, most recently as senior director of marketing. In this position, Mr. Weissman was responsible for the sales, profit and strategic targets for the company's specialty products, including CNS, endocrinology, ophthalmology, oncology and diversified portfolios. Mr. Weissman holds a Bachelor of Science from Bates College in Maine.

"There continues to be strong interest and progress in the research and development of RNAi therapies, and Dicerna's Dicer Substrate Technology provides differentiation and offers significant advantages over other RNAi approaches," said Mr. Weissman. "I look forward to helping Dicerna continue to execute on its business strategy and further the research and development efforts utilizing the company's unique platform."

About Dicer Substrate RNAi
Dicer is a critical enzyme involved in the RNAi gene silencing cascade and acts as the natural initiation point for this pathway by processing double-stranded RNA so that it can be used for gene silencing. Dicer then delivers these modified small RNA molecules to the mature gene silencing complex. Dicerna's synthetic Dicer Substrate siRNA (DsiRNA) molecules are 25 or more base pairs in length and are processed by Dicer. By utilizing this distinct early entry point into the pathway, DsiRNA molecules have greater potency and longer duration of action than other RNAi approaches. In addition, DsiRNA molecules have enhanced delivery potential because their structure creates a natural conjugation point for cellular targeting agents.

About Dicerna Pharmaceuticals
Dicerna Pharmaceuticals is a private, venture-backed RNAi-focused biopharmaceutical company developing novel therapeutic agents and related drug delivery systems in oncology and other disease areas based on its proprietary Dicer Substrate Technology™ platform and Dicer Substrate siRNA (DsiRNA) molecules. Dicer Substrate Technology™ is a second generation RNAi approach that results in greater potency, longer duration of action and enhanced delivery potential, differentiating it from other RNAi approaches. Dicerna has a major alliance with Kyowa Hakko Kirin for DsiRNA pharmaceuticals and drug delivery systems focused in oncology, immunology and inflammation. The company also has a partnership with Ipsen to research and develop novel DsiRNA therapeutics with targeted delivery in oncology and endocrinology. Dicerna is based in Watertown, Massachusetts. For more information, please visit www.dicerna.com.

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