Dicerna Announces Novo Nordisk's Nomination of First Candidate for Development Under RNAi Discovery and Development Agreement and Additional Milestone Achievement

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– First Development Candidate Selected Under Multi-Target Collaboration Will Be Evaluated for Treatment of Cardiometabolic Diseases and Triggers $2.5 Million Milestone to Dicerna –

– Dicerna Also Earned $25 Million Annual Fee for Delivery of Multiple GalXC™ RNAi Molecules in 2020 –

LEXINGTON, Mass.--(BUSINESS WIRE)--Jan. 5, 2021-- Dicerna Pharmaceuticals, Inc. (Nasdaq: DRNA) (the "Company" or "Dicerna"), a leading developer of investigational ribonucleic acid interference (RNAi) therapeutics, today announced Novo Nordisk A/S ("Novo") has nominated its first candidate under the existing agreement between the two companies for the discovery and development of novel therapies for the treatment of liver-related cardiometabolic diseases using Dicerna's proprietary GalXC™ RNAi platform technology.

"The past 12 months since closing our agreement with Novo have been extremely productive, with the identification and validation of multiple candidates under this highly collaborative relationship," said Bob D. Brown, Executive Vice President and Head of Research and Development at Dicerna. "That we have so quickly reached this first candidate selection milestone is a testament to the efficiency of both the Dicerna team and our technology platform, and to the clear, constructive communications between our organizations. The work invested to date has helped build an effective foundation for our partnership to generate and advance multiple new GalXC candidates over the coming years."

"Our collaboration with Dicerna has progressed very well in its first year," said Marcus Schindler, Senior Vice President of Global Drug Discovery at Novo Nordisk. "We are very pleased to have already nominated the first GalXC RNAi candidate for IND-enabling studies in cardiometabolic diseases – and I am confident many more will follow, as we continue to create synergies between the Dicerna team and our disease area experts."

Under the agreement, Dicerna is eligible to receive $25 million annually for each of the first three years contingent on delivering to Novo RNAi molecules for a defined number of targets. Dicerna met this obligation in 2020. In addition, Dicerna earned a $2.5 million milestone in December 2020 associated with nomination of the first development candidate.

The collaboration between Novo and Dicerna, which closed in late December 2019, encompasses the exploration of more than 30 liver cell targets with the potential to deliver multiple clinical candidates for disorders including chronic liver disease, nonalcoholic steatohepatitis (NASH), type 2 diabetes, obesity and rare diseases. Dicerna is conducting discovery and preclinical development up to candidate selection for each liver cell target, and Novo is responsible for further development.

The agreement enables each company to co-develop and co-commercialize product candidates discovered in the collaboration. Novo is leading programs targeting cardiometabolic disorders and other indications with Dicerna having the right to opt in to two programs during clinical development. Dicerna retains rights to initiate two new orphan liver disease programs for which Novo can opt in. For all co-development programs, the companies will share in the profit/loss of net sales of products consistent with each company's contribution to co-development costs. For programs to which Dicerna does not opt in, Dicerna is eligible to receive up to $357.5 million per target in development, regulatory and commercialization milestone payments, plus tiered royalties on product sales ranging from the mid-single-digits to mid-teens.

About Dicerna's RNAi Technology Platform

Dicerna's proprietary RNA interference (RNAi) technology platform, called GalXC™, aims to advance the development of next-generation RNAi-based therapies designed to silence disease-driving genes in the liver. GalXC-based compounds enable subcutaneous delivery of RNAi therapies that are designed to bind specifically to receptors on liver cells, leading to internalization and access to the RNAi machinery within the cells. The GalXC approach seeks to optimize the activity of the RNAi pathway so that it operates in the most specific and potent fashion. Dicerna has continued to innovate and is exploring new applications of its RNAi technology beyond the liver, targeting additional tissues and enabling new therapeutic applications.

About Dicerna Pharmaceuticals, Inc.

Dicerna Pharmaceuticals, Inc. (Nasdaq: DRNA) is a biopharmaceutical company focused on discovering, developing and commercializing medicines that are designed to leverage ribonucleic acid interference (RNAi) to silence selectively genes that cause or contribute to disease. Using our proprietary RNAi technology platform called GalXC™, Dicerna is committed to developing RNAi-based therapies with the potential to treat both rare and more prevalent diseases. By silencing disease-causing genes, Dicerna's GalXC platform has the potential to address conditions that are difficult to treat with other modalities. Initially focused on hepatocytes, Dicerna has continued to innovate and is exploring new applications of its RNAi technology beyond the liver, targeting additional tissues and enabling new therapeutic applications. In addition to our own pipeline of core discovery and clinical candidates, Dicerna has established collaborative relationships with some of the world's leading pharmaceutical companies, including Novo Nordisk A/S, Roche, Eli Lilly and Company, Alexion Pharmaceuticals, Inc., Boehringer Ingelheim International GmbH and Alnylam Pharmaceuticals, Inc. Between Dicerna and our collaborative partners, we currently have more than 20 active discovery, preclinical or clinical programs focused on rare, cardiometabolic, viral, chronic liver and complement-mediated diseases, as well as neurodegeneration and pain. At Dicerna, our mission is to interfere – to silence genes, to fight disease, to restore health. For more information, please visit www.dicerna.com.

Cautionary Note on Forward-Looking Statements

This press release includes forward-looking statements. Such forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied in such statements. Examples of forward-looking statements include, among others, statements we make regarding the collaboration agreement with Novo, the potential for Dicerna to generate additional GalXC™ RNAi treatment candidates for further development by Novo and the potential for Dicerna or Novo to opt in to co-develop and co-commercialize product candidates

discovered under the collaboration. The process by which investigational therapies could potentially lead to an approved product is long and subject to highly significant risks. Applicable risks and uncertainties include those relating to Dicerna's clinical research and other risks identified under the heading "Risk Factors" included in the Company's most recent filings on Forms 10-K and 10-Q and in other future filings with the Securities and Exchange Commission. These risks and uncertainties include, among others, the cost, timing and results of preclinical studies and clinical trials and other development activities by us and our collaborative partners; the likelihood of Dicerna's clinical programs being executed on timelines provided and reliance on the Company's contract research organizations and predictability of timely enrollment of subjects and patients to advance Dicerna's clinical trials; the reliance of Dicerna on contract manufacturers to supply its products for research and development and the risk of supply interruption from a contract manufacturer; the potential for future data to alter initial and preliminary results of early-stage clinical trials; the impact of the ongoing COVID-19 pandemic on our business operations, including the conduct of our research and development activities; the unpredictability of the duration and results of the regulatory review of Investigational New Drug applications (INDs) and Clinical Trial Applications (CTAs) that are necessary to continue to advance and progress the Company's clinical programs and the regulatory review of INDs and CTAs; the timing, plans and reviews by regulatory authorities of marketing applications such as New Drug Applications (NDAs) and comparable foreign applications for one or more of Dicerna's product candidates; the ability to secure, maintain and realize the intended benefits of collaborations with partners; market acceptance for approved products and innovative therapeutic treatments; competition; the possible impairment of, inability to obtain, and costs to obtain intellectual property rights; possible safety or efficacy concerns that could emerge as new data are generated in R&D; and general business, financial, and accounting risks and litigation. The forward-looking statements contained in this press release reflect Dicerna's current views with respect to future events, and Dicerna does not undertake and specifically disclaims any obligation to update any forward-looking statements.

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Media:
Amy Trevvett
+1 617-612-6253
atrevvett@dicerna.com

Investors:
Lauren Stival
+1 617-514-0461
lstival@dicerna.com

Source: Dicerna Pharmaceuticals, Inc.