Medicenna Announces Preclinical Data on MDNA11 with Anti-PD-1 Therapy and Unveils Novel Bifunctional Superkines at the Cytokine-Based Cancer Immunotherapies Summit

March 25, 2021

-- MDNA11 and anti-PD-1 combination leads to complete responses in a murine solid tumor model

*-- Preclinical data demonstrates the potential of BiSKITs™ (**Bi**-functional **S**uper**K**ine **I**mmuno**T**herapie**s**) to effectively target immunologically "cold" tumors*

TORONTO and HOUSTON, March 25, 2021 (GLOBE NEWSWIRE) -- Medicenna Therapeutics Corp. ("Medicenna" or "the Company") (NASDAQ: MDNA TSX: MDNA), a clinical stage immuno-oncology company, today announced an upcoming oral presentation of preclinical data on the Company's Superkine platform programs. The presentation will take place today, March 25, 2021 at 2:25 pm ET at the virtual Cytokine-Based Cancer Immunotherapies Summit.

The presentation will feature preclinical data on MDNA11, a long-acting IL-2 Superkine that preferentially binds the IL-2 beta receptor (IL-2Rβ) on immune cells, as well as an overview of Medicenna's **Bi**-functional **S**uper**K**ine **I**mmuno**T**herapie**s** (BiSKITs™) program, which includes engineered interleukins designed to target immunologically "cold" tumors.

"Immunosuppressive tumor microenvironments (TMEs) often limit the efficacy of checkpoint inhibitors, highlighting an unmet need for new therapeutic agents that can induce an anti-cancer immune response and overcome immunotherapy resistance mechanisms," said Fahar Merchant, PhD, President and CEO of Medicenna. "New data show that MDNA11 monotherapy or when combined with anti-PD-1 therapy stimulated potent immune responses in preclinical tumor models highlighting the potential of our Superkine platform to address this need. This capability is further highlighted by results related to our BiSKITs™ program, which demonstrates the ability of an IL-13 super-antagonist to suppress the TME known to promote cancer growth. By linking the IL-13 super-antagonist with an IL-2 super-agonist via a protein scaffold, we have generated a novel long acting dual specific cytokine designed to simultaneously activate anti-cancer immune cells while mitigating the immunosuppressive effects of the TME. We plan to present additional data on our IL-2/IL-13 dual specific cytokine next month, which may further validate the versatility of our Superkine platform."

The oral presentation, titled "*Designer Cytokines"* will be given by Dr. Merchant today, March 25, 2021 at 2:25 pm ET. Dr. Merchant will also participate in a live Q&A session at 3:05 pm ET today. Those interested in viewing the live presentation or participating in the Q&A session can register for the Cytokine-Based Cancer Immunotherapies Summit here.

Highlights from the presentation include:

- Treatment with MDNA11 alone or in combination with anti-PD-1 therapy led to tumor growth inhibition and complete responses in a murine MC38 tumor model. Tumor growth was not inhibited by anti-PD-1 monotherapy.
- Preclinical data demonstrate the ability of MDNA413, an IL-13 super-antagonist, to suppress myeloid derived suppressor cells (MDSC) and M2a polarization of tumor associated macrophages, which are known to accumulate in the TME and promote cancer growth.
- A novel **DU**al **C**yto**K**ine asset (DUCK Cancer™) designed to simultaneously stimulate a pro-inflammatory, anti-cancer (Th1) response through IL-2 activation while inhibiting IL-4/IL-13 signaling to suppress the anti-inflammatory (Th2) response is described. Data on the IL-2/IL13 DUCK will be presented next month at the AACR Annual Meeting 2021.

A copy of slides from the oral presentation will be posted to the "Events and Presentations" page of Medicenna's website.

About Medicenna
Medicenna is a clinical stage immunotherapy company focused on the development of novel, highly selective versions of IL-2, IL-4 and IL-13 Superkines and first in class Empowered Superkines for the treatment of a broad range of cancers. Medicenna's long-acting IL2 Superkine asset, MDNA11, is a next-generation IL-2 with superior CD122 binding without CD25 affinity and therefore preferentially stimulates cancer killing effector T cells and NK cells when compared to competing IL-2 programs. Medicenna's lead IL4 Empowered Superkine, MDNA55, has completed a Phase 2b clinical trial for rGBM, the most common and uniformly fatal form of brain cancer. MDNA55 has been studied in five clinical trials involving 132 subjects, including 112 adults with rGBM. MDNA55 has obtained Fast-Track and Orphan Drug status from the FDA and FDA/EMA, respectively.

Forward-Looking Statement
This news release contains forward-looking statements under applicable securities laws and relate to the future operations of the Company and other statements that are not historical facts including statements related to the clinical potential of its BiSKITs™ program and Superkine platform and the presentation of additional data. Forward-looking statements are often identified by terms such as "will", "may", "should", "anticipate", "expects", "believes" and similar expressions. All statements other than statements of historical fact, included in this release, including the future plans and objectives of the Company, are forward-looking statements that involve risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. Important factors that could cause actual results to differ materially from the Company's expectations include the risks detailed in the annual information form of the Company dated May 14, 2020 and in other filings made by the Company with the applicable securities regulators from time to time in Canada and the United

States.

The reader is cautioned that assumptions used in the preparation of any forward-looking information may prove to be incorrect. Events or circumstances may cause actual results to differ materially from those predicted, as a result of numerous known and unknown risks, uncertainties, and other factors, many of which are beyond the control of the Company. The reader is cautioned not to place undue reliance on any forward-looking information. Such information, although considered reasonable by management at the time of preparation, may prove to be incorrect and actual results may differ materially from those anticipated. Forward-looking statements contained in this news release are expressly qualified by this cautionary statement. The forward-looking statements contained in this news release are made as of the date of this news release and the Company will update or revise publicly any of the included forward-looking statements only as expressly required by Canadian and United States securities law.

Further Information

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Medicenna Therapeutics Corp.