Medicenna Presents Promising Preclinical Data on IL-2 and IL-13 Superkines at the EORTC-NCI-AACR Annual Meeting

October 26, 2020

-- Monotherapy and combination studies continue to demonstrate best-in-class potential of MDNA11

-- Bispecific IL-2/IL-13 Superkine demonstrates the potential to treat immunologically "cold" tumors

TORONTO and HOUSTON, Oct. 26, 2020 (GLOBE NEWSWIRE) -- Medicenna Therapeutics Corp. ("Medicenna" or "the Company") (NASDAQ: MDNA, TSX: MDNA), a clinical stage immuno-oncology company, today announced a poster presentation of preclinical data on the Company's IL-2 and IL-13 Superkine platform programs at the 32nd EORTC-NCI-AACR ("ENA") Symposium on Molecular Targets and Cancer Therapeutics.

"There is a critical unmet need for new treatment options for cancers with immunosuppressive tumor microenvironment (TME), which are often resistant to currently used therapies including immune checkpoint inhibitors," said Fahar Merchant, PhD, President and CEO of Medicenna. "Data presented at ENA show that our bispecific IL-2/IL-13 Superkine has the potential to address this need by selectively activating anti-tumor CD8+ T cells without Treg stimulation while simultaneously suppressing the dual IL-13 and IL-4 TME signaling pathways that block cancer fighting T cells. Taken together with data from the poster demonstrating MDNA11's ability to induce the expansion of a multitude of anti-cancer immune cells without increasing toxicity, these results highlight the versatility of our Superkine platform as a tool for the development of novel cytokine-based immunotherapies."

The poster and corresponding abstract feature 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 data related to a long acting bispecific IL-2/IL-13 Superkine that is designed to simultaneously activate cancer killing immune cells while reversing anti-inflammatory TME. These results demonstrate the potent therapeutic efficacy of MDNA11 monotherapy in multiple tumor models, further supporting the molecule's best-in-class potential. Medicenna's bispecific IL-2/IL-13 Superkines are novel and demonstrate the potential of the platform to address a critical unmet need by effectively targeting immunologically "cold" tumors that are often resistant to immunotherapeutic agents. In summary, these data demonstrate the best-in-class potential of MDNA11 as well as the ability of Medicenna's Superkine platform to efficiently transform natural interleukins into innovative dual-acting cytokines for immuno-oncology indications.

The poster, titled "*Emergence of Novel Long-acting Mono- and Bi-specific IL-2/IL-13 Superkines as Potent Immune Modulators*", will be presented by Dr. To during the New Therapies in Immuno Oncology session of the ENA meeting. Highlights from the poster and corresponding abstract include:

- Data show that compared to native IL-2, MDNA11 exhibits enhanced potency towards anti-tumor CD8+ T and natural killer (NK) cells, and diminished activity toward pro-tumor T_{reg} cells
- MDNA11 inhibited B16F10 tumor growth and improved survival as a monotherapy and in combination with a tumor-antigen targeting antibody by inducing a durable increase in tumor infiltrating lymphocytes
- Treatment with MDNA11 alone or in combination with an immune checkpoint inhibitor resulted in long-term tumor regression and a strong memory response in a preclinical colon cancer model
- Repeat dosing of non-human primates with MDNA11 did not trigger cytokine storm, anti-drug antibody response nor eosinophilia (associated with vascular leak syndrome)
- Data show that Medicenna's bispecific IL-2/IL13 Superkine induced anti-tumor Th1 immune responses and inhibited pro-tumor IL-4/IL-13 signaling

Medicenna continues to advance its MDNA11 and IL-2/IL-13 Superkine programs. The Company expects to declare a lead candidate for its bispecific Superkine program in 2021 and initiate a Phase 1 clinical trial with MDNA11 in mid-2021.

A copy of the ENA electronic poster 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 stimulating cancer killing effector T cells and NK cells when compared to competing IL-2 programs. It is anticipated that MDNA11 will be ready for the clinic in 2021. 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. For more information, please visit www.medicenna.com.

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. 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 anticipated timing as to when MDNA11 will be ready for the clinic, MDNA11's best in class potential and 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 and that study results could change over time as the study is continuing to follow up all subjects and new data are continually being received which could materially change study results. 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.

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Source: Medicenna Therapeutics Corp.