Medicenna Announces Preliminary Clinical Data Showing Preferential Stimulation of Anti-Cancer Immune Cells with MDNA11 Treatment in the Phase 1/2 ABILITY Study

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-- Peak CD8$^+$ T cell (anti-tumor) / Treg (pro-tumor) ratio increased ~2-3 fold over baseline with MDNA11 treatment in the trial's first two dose escalation cohorts

-- MDNA11-induced increases in CD8$^+$ T and NK cells compare favorably to competing IL-2 variants in the clinic

-- No dose limiting toxicity, or any evidence of cytokine release syndrome, nor any evidence of vascular leak syndrome has been observed

TORONTO and HOUSTON, Dec. 22, 2021 (GLOBE NEWSWIRE) -- Medicenna Therapeutics Corp. ("Medicenna" or "the Company") (NASDAQ: MDNA TSX: MDNA), a clinical stage immuno-oncology company, today announced preliminary data from the Phase 1/2 ABILITY (**A B**eta-only **IL**-2 **I**mmuno**T**herap**Y**) study of MDNA11, the Company's selective, long-acting and novel IL-2 super-agonist.

Key findings from the ABILITY study's first two dose escalation cohorts, which evaluated MDNA11 monotherapy in patients with advanced malignancies and administered intravenously once every two weeks, include the following:

- CD8$^+$ T and NK cell levels increased by ~2 fold over baseline with MDNA11 treatment at doses where competing "not-alpha" IL-2 variants have not demonstrated any activity.
- MDNA11 preferentially increased anti-cancer CD8$^+$ T cells over pro-tumor Treg cells, as the CD8$^+$ T / Treg ratio increased by ~2-3 fold over baseline.
- MDNA11 has exhibited an encouraging safety profile. No dose limiting toxicities, or any evidence of cytokine release syndrome, or evidence of vascular leak syndrome has been reported to date.

"These preliminary clinical data represent an important step towards demonstrating how MDNA11's differentiated 'beta-only' approach positions it as a potentially best-in-class IL-2 cytokine in development," said Fahar Merchant, PhD., President and Chief Executive Officer of Medicenna. "Patients in the ABILITY study's first two cohorts have not displayed major safety issues while showing increases in anti-cancer immune cells that could be further enhanced as we evaluate higher doses of MDNA11 in subsequent dose escalation cohorts. We are very pleased with the ABILITY study's early results to date and are on track to provide additional updates on safety, pharmacokinetic, and pharmacodynamic data next quarter with initial efficacy results anticipated in mid-2022."

About the Phase 1/2 ABILITY Study
The ABILITY (**A B**eta-only **IL**-2 **I**mmuno**T**herap**Y**) study is designed to assess the safety, pharmacokinetics, pharmacodynamics, and anti-tumor activity of various doses of intravenously administered MDNA11 in patients with advanced, relapsed, or refractory solid tumors. The trial includes an MDNA11 monotherapy arm, as well as a combination arm designed to evaluate MDNA11 with a checkpoint inhibitor. Approximately 80 patients are expected to be enrolled into the ABILITY Study. Following establishment of the recommended Phase 2 dose (RP2D) and optimal treatment schedule in the study's dose escalation phase, Medicenna plans to conduct a dose expansion phase that will enroll patients with renal cell carcinoma, melanoma, and other solid tumors in monotherapy and combination settings.

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. Medicenna's long-acting IL-2 Superkine, MDNA11, is a next-generation IL-2 with superior CD122 (IL-2 receptor beta) binding without CD25 (IL-2 receptor alpha) affinity thereby preferentially stimulating cancer killing effector T cells and NK cells. Medicenna's early-stage BiSKITs™ program, (**Bi**functional **S**uper**K**ine **I**mmuno**T**herapie**s**) is designed to enhance the ability of Superkines to treat immunologically "cold" tumors. Medicenna's IL-4 Empowered Superkine, MDNA55, has been studied in 5 clinical trials including a Phase 2b trial for recurrent GBM, the most common and uniformly fatal form of brain cancer. MDNA55 has obtained Fast-Track and Orphan Drug status from the FDA and FDA/EMA, respectively.

Forward-Looking Statements
This news release contains forward-looking statements within the meaning of applicable securities laws that relate to the future operations of the Company and other statements that are not historical facts including, but not limited to, statements related to the clinical potential, safety profile and development of MDNA11 and the timing for additional results for such the MDNA11 clinical study. Forward-looking statements are often identified by terms such as "will", "may", "should", "anticipate", "expect", "believe", "seek" and similar expressions. All statements other than statements of historical fact, included in this release, including statements on the future plans and objectives of the Company, are forward-looking statements that are subject to 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 for the year ended March 31, 2021, which is available on SEDAR at www.sedar.com, and Form 40-F of the Company filed with the United States Securities and Exchange Commission 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, 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 hereof and except as required by law, we do not intend and do not assume any obligation to update or revise publicly any of the included forward-looking statements.

Further Information

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