Medicenna Announces New Clinical Data Showing Dose-Dependent Stimulation of Anti-Cancer Immune Cells with MDNA11 in the Phase 1/2 ABILITY Study

May 2, 2022

-- Levels of Ki67$^+$ expression by CD8$^+$ T cells and NK cells increased by 17-fold and 10-fold, respectively, in the third cohort (30 µg/kg dose) when compared to baseline

-- NK cell / Treg and CD8$^+$T cell / Treg ratios increased by 4.4-fold and 2.6 fold, respectively, at the 30 µg/kg dose, demonstrating superior stimulation of cancer fighting immune cells.

-- Significant dose-dependent increases in CD8$^+$ T (>3-fold) and NK (>6-fold) cells indicates potential for further expansion of anti-tumor immune cells as dose-escalation continues

TORONTO and HOUSTON, May 02, 2022 (GLOBE NEWSWIRE) -- Medicenna Therapeutics Corp. ("Medicenna" or "the Company") (NASDAQ: MDNA TSX: MDNA), a clinical stage immuno-oncology company, today announced new clinical data from the Phase 1/2 ABILITY (**A B**eta-only **IL**-2 **I**mmuno**T**herap**Y**) study of MDNA11, the Company's long-acting IL-2 super-agonist.

"We believe that the ABILITY study's early results are promising, as they indicate MDNA11 is potently and selectively stimulating proliferation of cancer fighting immune cells in a dose-dependent manner," said Dr. Fahar Merchant, President and Chief Executive Officer of Medicenna. "MDNA11-induced increases in both the adaptive and innate population of anti-cancer immune cells are notably greater than those achieved by competing agents, including those with demonstrated clinical activity, when administered equivalent doses based on IL-2 content. This suggests MDNA11 may demonstrate superior efficacy, particularly as we continue to dose escalate in the trial's subsequent cohorts."

Dr. Merchant added, "The ABILITY study's first three cohorts have provided encouraging initial look at MDNA11's clinical profile. The trial's preliminary data show this IL-2 super-agonist behaving precisely as it was designed, providing early clinical validation for the MDNA11 program and our broader Superkine platform. With these important data in hand, we are now enrolling patients in the trial's fourth dose escalation cohort and progressing towards an expected initial update on efficacy data in mid-2022."

In the ABILITY study, dose escalation cohorts are evaluating MDNA11 monotherapy administered intravenously once every two weeks to patients with advanced solid tumors. The trial's first two cohorts (n = 4) evaluated MDNA11 doses ≤ 10 µg/kg (IL-2 content of ≤ 2 µg/kg). The trial's third cohort (n = 4) utilized a dose of 30 µg/kg (IL-2 content of 6 µg/kg). Key findings from these initial dose escalation cohorts include:

- Levels of Ki67$^+$ expression by CD8$^+$ T and NK cells increased 17-fold and 10-fold over baseline, respectively, following treatment with MDNA11 in the trial's third dose escalation cohort
- MDNA11 treatment led to the dose-dependent and significant expansion of CD8$^+$ T and NK cells at the 30 µg/kg when compared to MDNA11 doses of ≤ 10 µg/kg. Levels of each cell type increased >3-fold and >6-fold over baseline, respectively, in the trial's third dose escalation cohort.
- MDNA11 preferentially increased anti-cancer CD8$^+$ T cells over pro-tumor Treg cells, as the mean peak CD8$^+$ T cell / Treg ratio increased by 2.6 fold over baseline in cohort 3.
- MDNA11 preferentially increased anti-cancer NK cells over Treg cells, as the mean peak NK cell / Treg ratio increased 4.4-fold over baseline in the trial's third dose-escalation cohort.
- MDNA11 continues to exhibit an acceptable safety profile. No dose limiting toxicities have been reported in the ABILITY study to date.

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. For more information, see ClinicalTrials.gov Identifier: NCT05086692.

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 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", "seeks" and similar expressions. All statements other than statements of historical fact, included in this release, including statements related to clinical potential and development of MDNA11 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 and Form 40-F of the Company 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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Source: Medicenna Therapeutics Corp.