



Medicenna Amends Protocol of Phase 2b Recurrent Glioblastoma Study of MDNA55 in Response to Strong Safety Data and Early Efficacy Read-outs

March 2, 2018

TORONTO and HOUSTON, May 2, 2018 /CNW/ - Medicenna Therapeutics Corp. ("Medicenna" or the "Company") (TSX: MDNA, OTCQX: MDNA), a clinical stage immunotherapy company, announced today that half the patients in the ongoing Phase 2b study of MDNA55 in recurrent glioblastoma (rGBM) have been recruited and the data to date demonstrate solid safety results and early signals of efficacy based on the findings of the Safety Review and Clinical Advisory Committees, comprised of key opinion leaders and study investigators.

MDNA55 is a novel first in class Interleukin-4 empowered cytokine (IL4-EC). This proprietary targeted therapy is designed to harness the exceptional specificity and affinity of engineered cytokines to selectively and simultaneously deliver cell killing payloads to the bulk tumor, tumor microenvironment (TME) and cancer stem cells (CSC). MDNA55 is administered directly into brain tumors using a technique known as Convection Enhanced Delivery (CED), which allows precision delivery of MDNA55 at high concentrations into the tumor tissue while avoiding exposure to the rest of the body. The clinical trial is currently enrolling adult patients with rGBM at leading brain cancer centers in the US.

"We are pleased with the safety profile to date and early efficacy signals of MDNA55. We are amending the protocol at the recommendation of our clinical advisors to further improve the chances for demonstrating increased therapeutic benefit for patients living with this life-threatening disease," said Fahar Merchant, PhD, President and Chief Executive Officer of Medicenna.

Principal Investigator, John H. Sampson MD, PhD, of Duke University Medical Center Department of Neurosurgery, commented, "The study has contributed substantially to the improvement of Convection Enhanced Delivery of drugs directly into brain tumors. More importantly, we are seeing definite biological effects of MDNA55 in some patients as we await final study results to see whether these translate into robust longer term benefits."

"We have used the occasion of this recruitment milestone to implement optimal methodologies in the amended protocol," commented Martin Bexon MD, Head of Clinical Development. "With the experience gleaned from the ongoing Phase 2b clinical trial of MDNA55 in rGBM, we are able, for instance, to allow for more personalized dosing based on the tumor load and incorporate advanced imaging modalities to measure treatment responses more reliably, despite significant changes due to necrosis and inflammation." Additionally, the amendment will allow investigators to administer a second dose of MDNA55 where appropriate.

Review of some patients who had been withdrawn from the study, believing that their disease had progressed, found that the apparent increases in tumor volumes, seen on brain scans, were, in fact, due to tissue necrosis, inflammation and edema. This is a known effect of immunotherapeutic agents such as MDNA55, called pseudo-progression, which poses a challenge to patient retention, management and data interpretation. When evaluating images from the above patients, using multi-modal imaging, Medicenna found evidence of biological activity of MDNA55 suggesting that these patients were benefiting from the treatment, and in multiple cases following withdrawal from the study, surgical resection showed significant tumor necrosis. This amendment allows a biopsy and/or advanced multi-modal imaging to more accurately discriminate between necrosis/inflammation and true disease progression. It is believed these tools will encourage subjects to remain in the study, where appropriate, giving time for the pseudo-progression to resolve and increase the likelihood of clinical responses.

It is anticipated that the protocol amendment will extend the expected timing to complete enrollment in the study to Q42018. The amended protocol is designed to fully leverage the safety profile, the optimal delivery technique and the highest safe dose of MDNA55 to retain patients in the study and therefore improve the likelihood of success of this clinical trial. Medicenna is in frequent communication with the FDA concerning drug development, the protocol amendment and review process. Available data will be presented at a conference in the fall of 2018.

Details regarding the protocol amendment for MDNA55-05 will be available on ClinicalTrials.gov.

About Medicenna Therapeutics Corp.

Medicenna is a clinical stage immunotherapy company focused on oncology and the development and commercialization of novel, highly selective versions of IL-2, IL-4 and IL-13 Superkines™ and first in class Empowered Cytokines™ (ECs) for the treatment of a broad range of cancers. Medicenna's wholly owned subsidiary, Houston-based Medicenna BioPharma, is specifically targeting the Interleukin-4 Receptor (IL4R), which is over-expressed by at least 20 different types of cancer affecting more than one million new cancer patients every year. Supported by a significant non-dilutive grant from CPRIT (Cancer Prevention and Research Institute of Texas), Medicenna's lead IL4-EC, MDNA55 is enrolling patients in a Phase 2b clinical trial for recurrent glioblastoma (rGBM), the most common and uniformly fatal form of brain cancer, at top-ranked brain cancer centres in the US. Our proprietary technology platform supports a unique, multi-pronged treatment paradigm that can precisely deliver MDNA55 to the tumor as well as blunt the immunosuppressive tumor micro-environment without harming healthy cells. MDNA55 has completed three clinical trials in 72 patients, including 66 adults with rGBM, demonstrated compelling efficacy and obtained Fast-Track and Orphan Drug status from the FDA and FDA/EMA respectively.

For more information, please visit www.medicenna.com.

This news release contains forward-looking statements relating 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" and similar expressions. All statements other than statements of historical fact, included in this release, including, without limitation, statements regarding future plans and objectives of the Company, statements related to the ongoing status of the Phase 2b clinical trial of MDNA55 for the treatment of recurrent glioblastoma and the anticipated effects of the protocol amendment 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 June 15, 2017 and in other filings made by the Company with the applicable securities regulators from time to time.

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 securities law.

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