



Medicenna Reports Improved Drug Distribution of MDNA55 with Novel Delivery Technology in Phase 2b Recurrent Glioblastoma Clinical Trial

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TORONTO and HOUSTON, Nov. 21, 2019 /CNW/ - Medicenna Therapeutics Corp. (TSX: MDNA, OTCQB: MDNAF), a clinical stage immuno-oncology company, today announced new positive results on drug distribution from the recently completed Phase 2b clinical trial of MDNA55 for the treatment of recurrent glioblastoma ("rGBM"), the most common and uniformly fatal form of brain cancer.

The results were presented by Dr. Nicholas Butowski, MD, Professor of Neurological Surgery and Director of Translational Research in Neuro-Oncology at the Helen Diller Family Comprehensive Cancer Center, University of California San Francisco at the 3rd Society for Neuro-Oncology and Society for CNS Interstitial Delivery of Therapeutics Joint Conference ("SNO-SCIDOT") held on November 20, 2019 at the JW Marriott Desert Ridge Resort in Phoenix, Arizona. Dr. Butowski provided an update on drug delivery results from the MDNA55 clinical trial which uses a technique known as Convection Enhanced Delivery ("CED") to treat adults with rGBM.

"CED allows us to solve one of the fundamental problems in trying to treat patients with brain tumors, and that is delivery," states Dr. Butowski. "By implementing new advances in CED that were previously not available, we are able to bypass the blood-brain barrier and deliver high concentrations of MDNA55 directly to the tumor and the at-risk area immediately surrounding it, without exposure to the rest of the body. Delivering MDNA55 to where it needs to be, along with the ability to continuously monitor distribution using real-time imaging, allows us to dramatically improve drug delivery and maximize tumor coverage."

Highlights from the podium presentation include:

- The MDNA55-05 study showed nearly 50% coverage of the tumor, with some patients achieving over 90% coverage of the target volume. In contrast, a previous CED study in rGBM¹, without the advances implemented by Medicenna, was able to achieve coverage of only 18% of the tumor and a 1cm high-risk margin around it.
- Higher infusion volumes (up to 66 mL) and higher doses of MDNA55 (up to 240 mg) did not result in increased toxicity.
- In the first 33 patients enrolled in the clinical trial, subjects expressing high levels of the IL4 receptor (IL4R) showed promising overall survival at 12 months (OS-12) of 57%, compared to an OS-12 of 27% for patients expressing low levels of IL4R - an improvement of 111%.
- The two IL4R groups did not reveal any differences in drug distribution or tumor coverage, highlighting the importance of IL4R expression in receiving optimal benefit from MDNA55.

"This trial clearly illustrates that directing therapy to a relevant target in rGBM, such as the IL4 receptor, is key in order to see improved patient outcomes," states Dr. Fahar Merchant, President and CEO of Medicenna. "We are optimistic that the combination of a targeted therapy and precision delivery of MDNA55 will enable us to provide maximum benefit to patients."

Updated efficacy results from the Phase 2b clinical trial MDNA55-05 will be presented on Sunday, November 24th, 2019 at the SNO Annual Meeting taking place immediately after the SNO-SCIDOT conference.

Reference:

Sampson JH, Archer G, Pedain C, Wembacher-Schröder E, Westphal M, Kunwar S, Vogelbaum MA, Coan A, Herndon JE, Raghavan R, Brady ML, Reardon DA, Friedman AH, Friedman HS, Rodríguez-Ponce MI, Chang SM, Mittermeyer S, Croteau D, Puri RK; PRECISE Trial Investigators. Poor drug distribution as a possible explanation for the results of the PRECISE trial. *J Neurosurg*. 2010 Aug;113(2):301-9.

About the MDNA55-05 Clinical Trial

MDNA55-05 is a Phase 2b study of the safety and efficacy of MDNA55, an IL4R-directed toxin, in patients with de novo GBM at first or second relapse where the tumor is not amenable to surgical resection. In the study, investigators administer MDNA55 once directly into the brain tumor using a technique known as Convection Enhanced Delivery (CED). CED allows precision delivery of MDNA55 into the tumor and the surrounding healthy brain containing infiltrative tumor cells, while avoiding systemic exposure.

The primary endpoint of the study is median Overall Survival (mOS) comparing a null survival rate of 8.0 months (based on historical control) with an alternative pursue rate of 11.5 months (1-sided alpha = 0.10 and 80% power for 46 ITT subjects). The secondary endpoint is objective response rate (ORR) assessed by the modified Response Assessment in Neuro-Oncology (mRANO)-based criteria incorporating advanced imaging modalities according to a null response rate of 6% with alternative pursue rate of 18% (1-sided alpha = 0.10 and 80% power for at least 35 subjects evaluable for response).

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. Supported by a US\$14.1M non-dilutive grant from CPRIT (Cancer Prevention and Research Institute of Texas), Medicenna's lead IL4-EC, MDNA55, has

completed enrolling patients in a Phase 2b clinical trial for rGBM, the most common and uniformly fatal form of brain cancer, at top-ranked brain cancer centres in the US. MDNA55 has been studied in five clinical trials involving 132 patients, including 112 adults with rGBM. MDNA55 has demonstrated compelling efficacy and has 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, that the combination of a targeted therapy and precision delivery of MDNA55 will enable us to provide maximum benefit to patients and statements related to the Phase 2b clinical trial of MDNA55 for the treatment of rGBM 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 June 24, 2019 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 (including, without limitation, the ability of the Company to fully replicate these interim data results) 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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