Medicenna Announces Oral Presentation of MDNA11 Data from the Phase 1/2 ABILITY-1 Study at the 2024 ASCO Annual Meeting

April 24, 2024

Oral presentation of MDNA11's Phase 1/2 ABILITY-1 Study will feature new and updated clinical data

Updated bizaxofusp survival results from the Phase 2b recurrent glioblastoma trial versus propensity matched external control arm will also be presented as a poster

TORONTO and HOUSTON, April 24, 2024 (GLOBE NEWSWIRE) -- Medicenna Therapeutics Corp. ("Medicenna" or the "Company") (TSX: MDNA, OTCQB: MDNAF), a clinical-stage immunotherapy company focused on the development of Superkines, announced today that it will be presenting two abstracts, including an oral podium presentation, at the Annual Meeting of the American Society of Clinical Oncology ("ASCO") to be held in Chicago from May 31 – June 4, 2024.

The oral podium presentation will include new clinical data from the ongoing Phase 1/2 ABILITY-1 Study evaluating MDNA11, a long-acting 'beta-enhanced not-alpha' interleukin-2 (IL-2) super-agonist, as both a monotherapy and in combination with pembrolizumab (KEYTRUDA®) in patients with advanced or metastatic solid tumors.

Details of the podium presentation are as follows:

Title: "Results from ABILITY-1 Monotherapy Dose Escalation Study with MDNA11, an Engineered Long-acting IL-2 agonist, in patients with advanced solid tumors"
Abstract #: 2508
Abstract Session: Developmental Therapeutics – Immunotherapy
Date and Time: June 3, 2024; 11:30 AM-2:30 PM CDT
Presenter: Dr Victoria G. Atkinson, MBBS, FRACP, Gallipoli Medical Research Foundation, Greenslopes Private Hospital, and Princess Alexandra Hospital, University of Queensland, Australia.

The second abstract will provide new data analyses for bizaxofusp (formerly known as MDNA55) survival outcomes compared to a propensity matched external control arm (ECA) in nonresectable recurrent glioblastoma (rGBM).

Details of the poster presentation are as follows:

Title: "Phase 2 Study of Bizaxofusp, an IL-4R Targeted Toxin Payload, in Nonresectable Recurrent GBM: Comparison of Overall Survival with Contemporaneous Eligibility-Matched and Propensity Score Balanced External Control Arm"
Abstract #: 2709
Abstract Session: Poster Session – Central Nervous System Tumors
Date and Time: June 1, 2024; 9:00 AM-12:00 PM CDT
Presenter: Dr. John Sampson, MD, PhD, MBA, Robert H. and Gloria Wilkins Distinguished Professor of Neurosurgery, School of Medicine, Duke University, Durham, North Carolina, USA

The full text of the published abstracts will be available on the 2024 ASCO Annual Meeting website on May 23rd, 2024 at 5:00 PM EDT.

About MDNA11

MDNA11 is a long-acting 'beta-enhanced not-alpha' interleukin-2 (IL-2) Superkine specifically engineered to overcome the shortcomings of aldesleukin and other next generation IL-2 variants by preferentially activating immune effector cells ($CD4^+$ T, $CD8^+$ T and NK cells) responsible for killing cancer cells, with minimal or no stimulation of immunosuppressive Tregs. These unique proprietary features of the IL-2 Superkine have been achieved by incorporating seven specific mutations and genetically fusing it to a recombinant human albumin scaffold to improve the pharmacokinetic (PK) profile and pharmacological activity of MDNA11 due to albumin's natural propensity to accumulate in highly vascularized sites, in particular tumor and tumor draining lymph nodes. MDNA11 is currently being evaluated in the Phase 1/2 ABILITY-1 study as both a monotherapy and in combination with pembrolizumab (KEYTRUDA®).

About the ABILITY-1 Study

The ABILITY-1 study (NCT05086692) is a global, multi-center, open-label study that assesses the safety, tolerability, pharmacokinetics, pharmacodynamics and anti-tumor activity of MDNA11 as monotherapy or in combination with pembrolizumab (KEYTRUDA®). In the combination dose escalation of the Phase 2 study, approximately 6-12 patients are expected to be enrolled and administered ascending doses of MDNA11 intravenously once every two weeks in combination with pembrolizumab. This portion of the study includes patients with a wide range of solid tumors with the potential for susceptibility to immune modulating therapeutics. Upon identification of an appropriate dose regimen for combination, the study will proceed to a combination dose expansion cohort.

About Bizaxofusp

Bizaxofusp (formerly known as MDNA55) is Medicenna's IL-4 Empowered Superkine that has been studied in 5 clinical trials in over 130 patients, including a Phase 2b trial in patients with recurrent glioblastoma (rGBM), the most common and uniformly fatal form of brain cancer. Results from the Phase 2b study, which were published in the journal Neuro-Oncology® (Sampson, et al. June 2023), demonstrated that bizaxofusp more than doubled

the median survival in end-stage rGBM patients when compared to a well-matched external control arm. Medicenna has obtained agreement from the U.S. FDA on the study design for the registrational Phase 3 LIGHT™ (**L**ocalized **I**nfusion for the treatment of recurrent **G**lioblastoma with **H**igh-dose bizaxofusp **T**herapy) trial and the Company is actively pursuing potential partnerships to conduct the LIGHT trial, and if approved, bizaxofusp's commercialization in key global markets. Bizaxofusp has been granted FastTrack and Orphan Drug status from the FDA and FDA/EMA, respectively.

About Medicenna

Medicenna is a clinical-stage immunotherapy company focused on developing 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 affinity toward CD122 (IL-2 receptor beta) and no CD25 (IL-2 receptor alpha) binding, thereby preferentially stimulating cancer-killing effector T cells and NK cells. Medicenna's IL-4 Empowered Superkine, bizaxofusp (formerly MDNA55), has been studied in 5 clinical trials enrolling over 130 patients, including a Phase 2b trial for recurrent GBM, the most common and uniformly fatal form of brain cancer. Bizaxofusp has obtained FastTrack and Orphan Drug status from the FDA and FDA/EMA, respectively. Medicenna's early-stage BiSKITs™ (Bifunctional SuperKine ImmunoTherapies) and the T-MASK™ (Targeted Metalloprotease Activated SuperKine) programs are designed to enhance the ability of Superkines to treat immunologically "cold" tumors.

For more information, please visit www.medicenna.com, and follow us on Twitter and LinkedIn.

KEYTRUDA® is a registered trademark of Merck Sharp & Dohme LLC, a subsidiary of Merck & Co., Inc., Rahway, NJ, USA.

Forward-Looking Statements

This news release contains forward-looking statements within the meaning of applicable securities laws. Forward-looking statements include, but are not limited to, express or implied statements regarding the future operations of the Company, estimates, plans, strategic ambitions, partnership activities and opportunities, objectives, expectations, opinions, forecasts, projections, guidance, outlook or other statements that are not historical facts, such as statements on the Company's clinical performance and potential, of MDNA11 and bizaxofusp (MDNA55). Drug development and commercialization involve a high degree of risk, and only a small number of research and development programs result in commercialization of a product. Results in early-stage clinical studies may not be indicative of full results or results from later stage or larger scale clinical studies and do not ensure regulatory approval. You should not place undue reliance on these statements or the scientific data presented. Forward-looking statements are often identified by terms such as "will", "may", "should", "anticipate", "expect", "believe", "seek", "potentially" and similar expressions. Forward-looking statements are based on a number of assumptions believed by the Company to be reasonable at the date of this news release. Although the Company believes that the expectations reflected in such forward-looking statements are reasonable, there can be no assurance that such statements will prove to be accurate. These statements are subject to certain risks and uncertainties and may be based on assumptions that could cause actual results and future events to differ materially from those anticipated or implied in such statements. Important factors that could cause actual results to differ materially from the Company's expectations include the risks detailed in the latest Annual Report on Form 20-F of the Company and in other filings made by the Company with the applicable securities regulators from time to time in Canada.

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 or implied in forward-looking statements. 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.

This news release contains hyperlinks to information that is not deemed to be incorporated by reference in this news release.

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