# Medicenna Shows Promising Pre-Clinical Results in Solid Tumor Models with its IL-2 Superkine, MDNA109

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TORONTO, Feb. 6, 2019 /CNW/ - Medicenna Therapeutics Corp. ("**Medicenna**" or "the **Company**") (TSX: MDNA, OTCQB: MDNAF), a clinical stage immunotherapy company developing first-in-class Superkines and Empowered Cytokines, today announced that new pre-clinical data on its IL-2 Superkine program, MDNA109, will be presented today demonstrating lack of immunogenicity while achieving potent anti-tumor activity particularly when combined with anti-PD1 and anti-CTLA-4 checkpoint inhibitors.

The new results on MDNA109 and its long acting variants will be delivered in a podium presentation today titled, "Putting Pedal to the Metal: Combining IL-2 Superkine (MDNA109) with Checkpoint Inhibitors" by Moutih Rafei, PhD, Associate Professor, Department of Pharmacology and Physiology, Université de Montreal at the 5th Annual Immuno-Oncology 360º Meeting in New York, NY.

"We are continuing to make good progress in selecting a lead clinical candidate based on MDNA109, the only engineered IL-2 Superkine designed to specifically target CD122 (IL-2Rβ) without CD25 dependency", said Moutih Rafei PhD, Head of Discovery at Medicenna. "Our rationally engineered long acting MDNA109 candidates potently and selectively stimulate cancer killing effector T cells with exceptional synergy when combined with either anti PD-1 or anti-CTLA-4 checkpoint inhibitors. Competing IL-2 therapies in development with reduced CD25 binding require much higher doses for activating effector T cells to achieve a therapeutic effect. In contrast, MDNA109 *in vitro* activates effector T cells at about 10-fold lower doses due to a 1000-fold increase in affinity for the CD122 receptor."

The presentation will highlight the following:

- MDNA109 is an engineered IL-2 superkine exhibiting 1000-fold enhanced affinity toward the CD122 receptor and best in class potency toward cancer killing effector T cells
- When tested *in vivo*, MDNA109 was not immunogenic and led to potent delay in the growth of pre-established B16F10 tumors compared to IL-2.
- Likewise, significant delay in the growth of pre-established MC38 and CT-26 colon cancer was observed in syngeneic mice receiving MDNA109, whereas its co-administration with anti-PD1 checkpoint inhibitor eliminated tumors in 90% of MC38 tumor-bearing mice.
- Furthermore, MDNA109 in combination with anti-CTLA-4 antibody, complete responses were observed in a majority of mice in the CT26 model. When cured animals were re-challenged on the counter-lateral flank with CT26 tumor cells, tumor growth was blocked at the secondary site clearly suggesting the generation of potent memory responses.
- Additional results on long-acting MDNA109 variants with impaired CD25 binding demonstrated abrogation of regulatory T cell activation at therapeutic doses in order to mitigate peripheral side effects, which are dependent on CD25 binding.

"Our IL-2, IL-4 and IL-13 Superkines and first in class Empowered Cytokines stimulate tumor-killing immune cells or block the immunosuppressive tumor micro-environment while synergizing with other cancer immunotherapy platforms for potent, targeted treatment", said Fahar Merchant, PhD, President and CEO of Medicenna. "We are excited with the results to date for MDNA109 and look forward to report further advances in the development of our first of many superkines."

**About MDNA109**
Developed by scientists at Stanford University, MDNA109 is an engineered version of IL-2 that binds up to 1,000 times more effectively to IL-2Rβ (CD122), thus greatly increasing its ability to activate and proliferate the immune cells needed to fight cancer. MDNA109 is an IL-2 Superkine that preferentially drives the expansion and responses of effector T cells and Natural Killer (NK) cells over Treg cells. It is the only IL-2 in development with a distinct mechanism by virtue of its high affinity towards CD122 allowing it to effectively combat NK cell anergy (exhaustion) which occurs frequently after cancer immunotherapy.

**About Medicenna Therapeutics Corp.**

Medicenna is a clinical stage immunotherapy company developing novel highly selective versions of IL-2, IL-4 and IL-13 Superkines and first in class Empowered Cytokines™ (ECs). Our mission is to become the leader in the development and commercialization of ECs and Superkines for the treatment of a broad range of cancers and immune-mediated diseases. MDNA55 is Medicenna's lead EC currently enrolling in a multi-centre Phase 2 clinical trial for the treatment of recurrent glioblastoma (rGBM), the most common and uniformly fatal form of brain cancer. MDNA55 has secured Orphan Drug Status from the United States Food and Drug Administration (FDA) and the European Medicines Agency as well as Fast Track Designation from the FDA for the treatment of rGBM. 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 that we are making good progress selecting a lead candidate designed to specifically target CD122 without CD25 dependency, that we will be able to make further advances in the development of our first of many superkines that our pre-clinical results are positive, that MDNA109 is the only IL-2 candidate in development that*

*selectively targets CD122 without CD25 dependency and statements related to 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 26, 2018 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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