UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of October 2023

Commission File Number: **001-39458**

Medicenna Therapeutics Corp.
(Translation of registrant's name into English)

2 Bloor St. W., 7th Floor
Toronto, Ontario M4W 3E2, Canada
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.
Form 20-F [X] Form 40-F [ ]

Other Events

On October 3, 2023, Medicenna Therapeutics Corp. (“Medicenna” or the “Company”) issued a press release announcing that new preclinical data characterizing MDNA223, an anti-PD1-IL-2 BiSKIT (Bifunctional SuperKine for ImmunoTherapy), were presented at the 2023 American Association for Cancer Research (AACR) Special Conference in Cancer Research: Tumor Immunology and Immunotherapy. The AACR poster included preclinical data demonstrating that the MDNA223 BiSKIT:

- Showed enhanced IL-2R selectivity and no binding to IL-2R, leading to preferential stimulation of CD8+ T cells over Tregs in human PBMCs,
- Retained high affinity to PD-1, generating potent blockade of PD-1/PD-L1 mediated exhaustion of T cells,
- Induced durable proliferation and expansion of CD8+ T cells in the periphery, and enhanced tumor infiltration of functionally active CD8+ T cells,
- Demonstrated superior efficacy and survival benefit in multiple syngeneic tumor models, including “cold” tumors compared to co-administration (combination) of anti-PD1 and IL-2 agonist,
- Synergized with agonist of the STING (Stimulator of Interferon Genes) pathway to enhance tumor inhibition and promote an abscopal effect as demonstrated by shrinkage of the untreated tumor on opposite flank,
- Synergized with STING agonist and enhanced tumor inhibition by abscopal effect, and
- Enhanced tumor response while being well-tolerated in a step-up dosing setting.

Forward Looking Statements

This Form 6-K contains forward-looking statements within the meaning of applicable securities laws that relate to the future operations of the Company, plans and projections and other statements, including statements on the development and potential of the Company’s product candidates, including, without limitation, BISKIT candidates including MDNA223. Forward-looking statements are often identified by terms such as “will”, “may”, “should”, “anticipate”, “expect”, “believe”, “seek”, “potentially” and similar expressions. and 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 latest Annual Information Form and 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 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.

The information set forth above in this Form 6-K shall be deemed to be incorporated by reference into the registration statement on Form F-3 (File Number 333-269868) and Form S-8 (File Number 333-240225), and related prospectuses, as such registration statements and prospectuses may be amended from time to time, and to be a part thereof from the date on which this report is filed, to the extent not superseded by documents or reports subsequently filed or furnished.

The information in the attached Exhibit 99.1 is being furnished and shall not be deemed “filed” for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or otherwise subject to the liabilities of that Section, nor shall it be deemed incorporated by reference in any filing made by the Company under the Securities Act of 1933, as amended, or the Exchange Act, except as otherwise set forth herein or as shall be expressly set forth by specific reference in such a filing.

EXHIBIT INDEX

Exhibit Number	Description
99.1	Press Release dated October 3, 2023

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

MEDICENNA THERAPEUTICS CORP.

Date: October 3, 2023

By: /s/ Jeff Caravella
Name: Jeff Caravella
Title: Chief Financial Officer

EXHIBIT 99.1

Medicenna Presents Preclinical MDNA223 BiSKIT Data at the AACR Special Conference on Tumor Immunology and Immunotherapy

- *MDNA223 is a bifunctional Superkine designed to activate cancer-killing immune cells via the IL-2 receptor while simultaneously preventing their exhaustion by blocking PD-1 signalling*
- *MDNA223 demonstrated superior efficacy and extended survival in multiple immunologically "hot" and "cold" syngeneic tumor models*
- *MDNA223 showed synergy with pro-inflammatory agonist (STING) to enhance tumor inhibition and induce abscopal effect*

TORONTO and HOUSTON, Oct. 03, 2023 (GLOBE NEWSWIRE) -- Medicenna Therapeutics Corp. ("Medicenna" or "the Company") (NASDAQ, TSX: MDNA), a clinical-stage immunotherapy company focused on the development of novel Superkines, today announced that new preclinical data characterizing MDNA223, an anti-PD1-IL-2 BiSKIT (**Bi**functional **S**uper**K**ine for **I**mmuno**T**herapy), were presented at the 2023 AACR Special Conference in Cancer Research: Tumor Immunology and Immunotherapy held from October 1 - 4, 2023, in Toronto, Canada.

"We are excited to demonstrate the versatility of our Superkines and the potential of our next generation BiSKITs platform, particularly in "cold" tumors that remain a therapeutic challenge for immunotherapy," said Fahar Merchant, Ph.D., President and CEO of Medicenna. "We believe that our dual-functioning BiSKIT candidates, such as MDNA223, are more potent and selective and may have an increased capacity to induce superior CD8+ T cell responses against tumor cells. These data demonstrate the potential of IL-2 BiSKITs either as monotherapy or in combination with other treatment modalities including cell-based therapies where better effector T cells are a pre-requisite for improving patient outcomes."

MDNA223 is a fusion of Medicenna's IL-2 Superkine with an anti-PD1 antibody, designed to maximize anti-tumor response by concurrently facilitating IL-2R pathway stimulation and PD1 checkpoint blockade on the same effector immune cell. The poster presentation includes preclinical data demonstrating that the MDNA223 BiSKIT:

- Showed enhanced IL-2R selectivity and no binding to IL-2R, leading to preferential stimulation of CD8+ T cells over Tregs in human PBMCs,
- Retained high affinity to PD-1, generating potent blockade of PD-1/PD-L1 mediated exhaustion of T cells,
- Induced durable proliferation and expansion of CD8+ T cells in the periphery, and enhanced tumor infiltration of functionally active CD8+ T cells,
- Demonstrated superior efficacy and survival benefit in multiple syngeneic tumor models, including "cold" tumors compared to co-administration (combination) of anti-PD1 and IL-2 agonist,
- Synergized with agonist of the STING (**St**imulator of **In**terferon **G**enes) pathway to enhance tumor inhibition and promote an abscopal effect as demonstrated by shrinkage of the untreated tumor on opposite flank,
- Synergized with STING agonist and enhanced tumor inhibition by abscopal effect,
- Enhanced tumor response while being well-tolerated in a step-up dosing setting.

The sum of encouraging preclinical data on MDNA223 highlights the potential of Medicenna's BiSKIT platform to broadly delivery effective therapy to otherwise challenging-to-treat 'cold' tumors. Copies of the poster will be posted to the "Events and Presentations" page of Medicenna's website following the conclusion of the meeting.

About BiSKITs and MDNA223
BiSKITs are novel **Bi**functional **S**uperKines for **I**mmuno**T**herapy designed to have dual functionality within a single molecule with the potential of improving patient outcomes where other immunotherapies have failed to be effective. One example is MDNA223, an IL-2 Superkine fused to an anti-PD1 antibody. MDNA223 is a BiSKIT designed to activate cancer-killing immune cells via the IL-2 receptor while simultaneously preventing their exhaustion by blocking PD-1 signalling. Combining these two functions into a single molecule allows us to simultaneously modulate both pathways on the same immune cells, also known as cis-targeting.

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 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 IL-4 Empowered Superkine, bizaxofusp (formerly 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. Bizaxofusp has obtained FastTrack and Orphan Drug status from the FDA and FDA/EMA, respectively. Medicenna's early-stage BiSKITs™ program (**Bi**functional **S**uper**K**ine **I**mmuno**T**herapies) is designed to enhance the ability of Superkines to treat immunologically "cold" tumors.

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For further information about the Company, please contact:

Delphine Davan
Vice President, Investor Relations and Corporate Communications,
Phone: +1 (647) 474-4253
ddavan@medicenna.com