MediciNova Announces New Data regarding MN-166 (ibudilast) in Glioblastoma Presented at the 26th Annual Meeting of the Society for Neuro-Oncology

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LA JOLLA, Calif., Nov. 22, 2021 (GLOBE NEWSWIRE) -- MediciNova, Inc., a biopharmaceutical company traded on the NASDAQ Global Market (NASDAQ:MNOV) and the JASDAQ Market of the Tokyo Stock Exchange (Code Number: 4875), today announced that MediciNova's research collaborator, Justin Lathia PhD, Co-Director of the Brain Tumor Research and Therapeutic Development Center of Excellence at Cleveland Clinic Lerner Research Institute, and Professor, Department of Molecular Medicine at Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, presented new data regarding MN-166 (ibudilast) from a glioblastoma animal model study at the 26th Annual Meeting of the Society for Neuro-Oncology (SNO) held November 18 - 21, 2021 in Boston.

This study was a collaborative effort between MediciNova and Dr. Lathia and Dr. Michael Vogelbaum, Professor of Neurosurgery, Chief of Neurosurgery and Program Leader of the Department of Neuro-Oncology at Moffitt Cancer Center.

Dr. Lathia presented efficacy data with MN-166 and PD-1 inhibitor combination therapy in GBM pre-clinical models. Models with GBM orthotopic tumors were treated with a PD-1 antibody alone and in combination with MN-166. Treatment was initiated at day 7 post-engraftment with 3 intraperitoneal injections 3 days apart. Treatment with a PD-1 inhibitor alone extended median survival from 17 to 28 days in this model, compared to control vehicle or non-specific antibody treatments. The addition of MN-166 to PD-1 inhibitor treatment significantly extended survival to a median of 66 days ($p<0.001$). This experiment was based on the hypothesis that inhibition of macrophage migration inhibitory factor (MIF) signaling via MIF-CD74 inhibition sensitizes GBM to treatment with an immune checkpoint inhibitor.

Dr. Lathia commented "Previously we identified MN-166, as a brain-penetrant MIF-CD74 interaction inhibitor which reduced myeloid-derived suppressor cells (MDSC) generation and reversed their T cell suppressive capacity in-vitro. In MN-166 treated models, we observed reduced monocytic-MDSCs and an increase of CD8+ T cell number and function in the tumor microenvironment. We are pleased to present this new data in which MN-166 and PD-1 inhibitor combination treatment significantly extended survival in a GBM orthotopic animal model. This new data is encouraging to support our hypothesis that targeting MDSCs with a MIF-CD74 blocker sensitizes GBM to anti-PD-1 therapy and improves survival."

Kazuko Matsuda, M.D. Ph.D, MPH., Chief Medical Officer, MediciNova, Inc., commented, "GBM is the most common primary malignant brain tumor with a very poor prognosis. GBM is a highly immunosuppressive tumor and there are limitations in terms of a safe immune response in the central nervous system. The advent of immune checkpoint inhibitors improved survival and prognosis of many people suffering with solid tumors, such as malignant melanoma, non-small cell lung cancer, and renal cell carcinoma. However, to date, targeted therapies comprising single components have only shown limited efficacy in clinical trials of GBM. Drug resistance is one of the main reason for the failure of immune checkpoint blockade therapy. We are very excited with this new MN-166 data that MN-166 sensitized GBM to immune checkpoint inhibitor treatment. We are looking forward to moving to a clinical trial of MN-166 in combination with an immune checkpoint inhibitor."

About MN-166 (ibudilast)

MN-166 (ibudilast) is a small molecule compound that inhibits phosphodiesterase type-4 (PDE4) and inflammatory cytokines, including macrophage migration inhibitory factor (MIF). It is in late-stage clinical development for the treatment of neurodegenerative diseases including ALS, progressive MS (multiple sclerosis), and DCM (degenerative cervical myelopathy); glioblastoma, CIPN (chemotherapy-induced peripheral neuropathy), and substance use disorder. In addition, MN-166 (ibudilast) is being evaluated in patients at risk for developing acute respiratory distress syndrome (ARDS).

About MediciNova

MediciNova, Inc. is a clinical-stage biopharmaceutical company developing a broad late-stage pipeline of novel small molecule therapies for inflammatory, fibrotic, and neurodegenerative diseases. Based on two compounds, MN-166 (ibudilast) and MN-001 (tipelukast), with multiple mechanisms of action and strong safety profiles, MediciNova has 11 programs in clinical development. MediciNova's lead asset, MN-166 (ibudilast), is currently in Phase 3 for amyotrophic lateral sclerosis (ALS) and degenerative cervical myelopathy (DCM) and is Phase 3-ready for progressive multiple sclerosis (MS). MN-166 (ibudilast) is also being evaluated in Phase 2 trials in glioblastoma, patients at risk of developing acute respiratory distress syndrome (ARDS), and substance dependence. MN-001 (tipelukast) was evaluated in a Phase 2 trial in idiopathic pulmonary fibrosis (IPF) and is in preparation for a second Phase 2 trial in nonalcoholic steatohepatitis (NASH). MediciNova has a strong track record of securing investigator-sponsored clinical trials funded through government grants.

Statements in this press release that are not historical in nature constitute forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements include, without limitation, statements regarding the future development and efficacy of MN-166, MN-001, MN-221, and MN-029. These forward-looking statements may be preceded by, followed by or otherwise include the words "believes," "expects," "anticipates," "intends," "estimates," "projects," "can," "could," "may," "will," "would," "considering," "planning" or similar expressions. These forward-looking statements involve a number of risks and uncertainties that may cause actual results or events to differ materially from those expressed or implied by such forward-looking statements. Factors that may cause actual results or events to differ materially from those expressed or implied by these forward-looking statements include, but are not limited to, risks of obtaining future partner or grant funding for development of MN-166, MN-001, MN-221, and MN-029 and risks of raising sufficient capital when needed to fund MediciNova's operations and contribution to clinical development, risks and uncertainties inherent in clinical trials, including the potential cost, expected timing and risks associated with clinical trials designed to meet FDA guidance and the viability of further development considering these factors, product development and commercialization risks, the uncertainty of whether the results of clinical trials will be predictive of results in later stages of product development, the risk of delays or failure to obtain or maintain regulatory approval, risks associated with the reliance on third parties to sponsor and fund clinical trials, risks regarding intellectual property rights in product candidates and the ability to defend and enforce such intellectual property

rights, the risk of failure of the third parties upon whom MediciNova relies to conduct its clinical trials and manufacture its product candidates to perform as expected, the risk of increased cost and delays due to delays in the commencement, enrollment, completion or analysis of clinical trials or significant issues regarding the adequacy of clinical trial designs or the execution of clinical trials, and the timing of expected filings with the regulatory authorities, MediciNova's collaborations with third parties, the availability of funds to complete product development plans and MediciNova's ability to obtain third party funding for programs and raise sufficient capital when needed, and the other risks and uncertainties described in MediciNova's filings with the Securities and Exchange Commission, including its annual report on Form 10-K for the year ended December 31, 2020 and its subsequent periodic reports on Form 10-Q and current reports on Form 8-K. Undue reliance should not be placed on these forward-looking statements, which speak only as of the date hereof. MediciNova disclaims any intent or obligation to revise or update these forward-looking statements.

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