Bright Minds Biosciences (“BMB”) Proprietary 5-HT2C Agonist Shows Significant Reduction in Seizure Activity

-- BMB proprietary 5-HT_{2C} agonist, BMB-101, shows efficacy in pre-clinical models of Dravet Syndrome/Epilepsy, with lower seizure duration and frequency --

-- Effect of BMB compounds was consistent with other anti-epileptics such as fenfluramine --

VANCOUVER, British Columbia, Aug. 18, 2021 (GLOBE NEWSWIRE) -- Bright Minds Biosciences (“Bright Minds,” “BMB” or the “Company”) (CSE: DRUG) (OTCQB: BMBIF), a biotechnology company focused on developing novel drugs for targeted treatment of neuropsychiatric disorders, epilepsy and pain, today announced that studies conducted with its BMB proprietary 5-HT_{2C} agonist, BMB-101, showed efficacy in rodent models of Dravet Syndrome (“Dravet Syndrome”)/Epilepsy.

“These early positive results around the antiseizure effects of BMB-101 and other analogues are very encouraging and further reinforce the potential of serotonin (5-HT_{2C}) agonists to address difficult to treat developmental and genetic epilepsies, including Dravet Syndrome and Lennox-Gastaut Syndrome ("LGS"). Dravet Syndrome and LGS are debilitating diseases, and current approved anti-epileptic drugs on the market have significant limitations, thus representing a high unmet medical need. This pre-clinical data is an important validation of the efficacy of our proprietary compounds in animal models predictive for efficacy in humans. We look forward to continuing our investigation and advancing this important work,” stated Ian McDonald, CEO of Bright Minds.

BMB-101 is a novel, well-characterized highly selective 5-HT_{2C} agonist. This compound and its analogues were first invented by Bright Minds’ Chief Scientific Officer, Dr. Alan Kozikowski, and his post-doctoral student, Dr. Jianjun Cheng, while working at the University of Illinois in Chicago.

Pre-clinical Findings

The BMB compounds were studied in the Scn1Lab zebrafish model as well as in two different rodent models. This zebrafish model mimics many of the clinical hallmarks observed in patients suffering from Dravet Syndrome[1]. Experiments in the cloned zebrafish model have predicted the clinical efficacy of other drugs in Dravet Syndrome.

The Scn1Lab zebrafish experiments revealed that the Bright Minds 5-HT_{2C} agonists reduced locomotor activity and the cumulative duration of epileptiform events in the brain. Bright Minds 5-HT_{2C} agonists also showed efficacy in two validated rodent models, namely the mouse 6-Hz psychomotor seizure model, and the rat maximum electroshock (“MES”) seizure model. BMB-101 demonstrated both lower seizure duration and frequency in a dose-dependent manner in the mouse model. One hour after injection, BMB-101 decreased seizure duration by 74%, with a significant number of mice in the study being completely protected from seizures. In the rat model, an analogue of BMB-101 demonstrated meaningful protection against MES-induced generalized seizures with all rats being protected from seizures at the highest doses tested.

“BMB-101 is a promising lead candidate to treat Dravet Syndrome patients. The data provide clear evidence that it has a therapeutic effect on the abnormal brain activity of Scn1Lab zebrafish, resulting in pronounced antiseizure activity. The effects of BMB-101 parallel those of other anti-epileptics, such as fenfluramine, a drug marketed for these patients. We believe that the model has a high construct validity and pharmacological predictivity in the search for new therapeutic candidates, especially in the case of serotonin agonists, to treat Dravet Syndrome and possibly other drug-resistant epilepsies,[2]” concluded McDonald.

About Dravet Syndrome
Dravet Syndrome, also known as Severe Myoclonic Epilepsy of Infancy (“SMEI”), is a rare form of intractable epilepsy that begins in infancy and proceeds with accumulating morbidity that significantly impacts individuals throughout their lifetime. For more information, please see Dravet Syndrome Foundation.

About Bright Minds
Bright Minds is focused on developing novel transformative treatments for neuropsychiatric disorders, epilepsy and pain. Bright Minds has a portfolio of next-generation serotonin agonists designed to target neurocircuit abnormalities that are responsible for difficult to treat disorders such as resistant epilepsy, treatment resistant depression, PTSD, and pain. The Company leverages its world-class scientific and drug development expertise to bring forward the next generation of safe and efficacious drugs. Bright Minds’ drugs have been designed to potentially retain the powerful therapeutic aspects of psychedelic and other serotonergic compounds, while minimizing the side effects, thereby creating superior drugs to first-generation compounds, such as psilocybin.

Forward Looking Statements
This news release contains forward-looking statements, including statements regarding the scientific findings of Company's drug development program, 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 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.

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, and which are described in the Company's public filings available under its profile at www.sedar.com. 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 does not intend to update any of the included forward-looking statements except as required by Canadian securities laws.

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[1] Sourbron, J. et al. 2016. Serotonergic Modulation as Effective Treatment for Dravet Syndrome in a Zebrafish Mutant Model. ACS Chem Neurosci. May 18;7(5):588-98.

[2] Griffin, A. et al. 2017. Clemizole and modulators of serotonin signalling suppress seizures in Dravet syndrome. Brain. Volume 140, Issue 3, Pages 669–683; and Griffin, A.L. et al. 2019. Zebrafish studies identify serotonin receptors mediating antiepilepticactivity in Dravet syndrome. Brain Commun. 1(1):fcz008.