Bright Minds Biosciences (“BMB”) Proprietary 5-HT2C Agonist Shows an Over 50% Decrease in Opioid Self-Administration in a Predictive Rodent Model

-- BMB compound significantly reduced fentanyl intake in an animal model of opioid abuse --

-- Potential to reduce continued opioid use in humans, a key treatment goal for opioid use disorder --

-- A brief virtual presentation discussing the findings is scheduled for Monday, March 15th at 11am ET --

VANCOUVER, British Columbia, March 15, 2021 (GLOBE NEWSWIRE) -- Bright Minds Biosciences (“Bright Minds,” “BMB” or the “Company”) (CSE:DRUG), a biotechnology company focused on developing novel transformative treatments for neuropsychiatry disorders, epilepsy and pain, today announced that studies conducted with its BMB proprietary 5-HT_{2C} agonists show robust efficacy in rodent models of opioid self-administration as a treatment for opioid use disorder (“OUD”). The Company tested its lead compound in rodent models at the Center for Addiction Research, University of Texas Medical Branch.

The increase in drug overdose mortality that began in 2019 accelerated markedly during the COVID-19 pandemic in the United States, leading to the largest number of drug overdoses for a 12-month period ever recorded. With this crisis worsening, the Company’s early positive results are highly encouraging, showing reduced opioid and drug-seeking without any side effects. According to the World Health Organization, fewer than 10% of eligible patients receive treatment for OUD that also decreases the risk of overdose.

“We are pleased to advance this important investigational work with the potential to expand therapeutic options for OUD that improve treatment response and adherence – all with the goal to ultimately save lives,” stated Ian McDonald, CEO of Bright Minds Biosciences.

“The Bright Minds approach builds on an innovative new medication candidate as a promising means to reduce craving and promote abstinence in patients with opioid use disorder,” stated Dr. Kathryn A. Cunningham, Center for Addiction Research, University of Texas Medical Branch.

Study Design and Preclinical Findings
The study was directed by leading researcher, Dr. Kathryn A. Cunningham, Director, Center for Addiction Research, University of Texas Medical Branch. The opioid use study used a validated model using male rats trained to stably self-administer fentanyl. This opioid self-administration model is considered the “gold standard” to investigate the neurobiology of drug addiction in rodents. The ability of a drug to suppress fentanyl intake predicts its potential to reduce continued opioid use in humans, a key OUD treatment goal.

The proprietary BMB compound dose-dependently suppressed fentanyl infusions in rats at potentially clinically relevant doses with the highest doses having a more than 50% reduction in fentanyl intake. In addition, the compound did not overtly alter spontaneous behaviors of animals in this study.

A brief virtual presentation to discuss the findings is scheduled for Monday, March 15 at 11am ET.

Link for registration
https://app.livestorm.co/bright-minds-biosciences/opioid-use-disorder-study-presentation?type=light

About Opioid Use Disorder
Opioid use disorder is the chronic use of opioids that causes clinically significant distress or impairment. According to the American Psychiatric Association, opioid use disorder includes signs and symptoms that reflect compulsive, prolonged self-administration of opioid substances that are used for no legitimate medical purpose, or if another medical condition is present, that requires opioid treatment, that are used in doses greatly in excess of the amount needed for that medical condition. Individuals with opioid use disorder tend to develop such regular patterns of compulsive drug use that daily activities are planned around obtaining and administering opioids.

Serotonin Agonists: Opioid Use Disorder

Serotonin (5-Hydroxytryptamine, 5-HT) is a monoamine neurotransmitter widely expressed in the central nervous system and drugs modulating 5-HT have made a major impact in mental health disorders. Central 5-HT systems have long been associated with the control of ingestive behavior and the modulation of behavioral effects of psychostimulants, opioids, alcohol and nicotine. Over the past decade, the various 5-HT receptor subtypes have been cloned and characterized. Results of clinical trials and animal studies indicate that 5-HT_{2C} receptor agonists may have therapeutic potential in the treatment of

addiction by decreasing the intake of opioids as well as impulsive behavior that can escalate compulsive drug use.[1,2]

About Bright Minds
Bright Minds is focused on developing novel transformative treatments for neuropsychiatry disorders, epilepsy and pain. Bright Minds has a portfolio of next-generation serotonin agonists designed to precisely target abnormalities in neurocircuitry that lead to dysfunctional behaviors. The Company is developing targeted therapies with the potential to improve the treatment of mental health and neurological disorders through the use of serotonergic compounds, leveraging its world-class scientific and drug development expertise to bring forward the next generation of safe and efficacious drugs. Bright Minds' drugs accentuate the 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 the 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.

Investor Contact:
Judy DiClemente
jdiclemente@insitecony.com

[1] Neelakantan H, Holliday ED, Fox RG, Stutz SJ, Comer SD, Haney M, Anastasio NC, Moeller FG, Cunningham KA. Lorcaserin Suppresses Oxycodone Self-Administration and Relapse Vulnerability in Rats. ACS Chem Neurosci. 2017 May 17;8(5):1065-1073. doi: 10.1021/acschemneuro.6b00413. Epub 2017 Feb 13. PMID: 28107783; PMCID: PMC5454249.

[2] Higgins GA, Fletcher PJ. Therapeutic Potential of 5-HT_{2C} Receptor Agonists for Addictive Disorders. ACS Chem Neurosci. 2015 Jul 15;6(7):1071-88. doi: 10.1021/acschemneuro.5b00025. Epub 2015 Apr 14. PMID: 25870913.