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Mydecine Achieves Innovative Supercomputing Artificial Intelligence Modeling in Psychedelic Drug Development Enabling Quick Screening of Billions of Compounds

The new serotonin receptor model (5-HT_{2A}) will allow the Company to rapidly increase drug analysis promoting near-term patent filings for novel psychedelic molecules.

DENVER, Jan. 10, 2022 (GLOBE NEWSWIRE) -- Mydecine Innovations Group (NEO: MYCO) (OTC: MYCOF) (FSE: 0NFA) ("Mydecine" or the "Company"), a biotechnology and digital technology company aiming to transform the treatment of mental health and addiction disorders, announced today they have completed a target-based model of the classic psychedelic serotonin receptor 5-HT_{2A} for use in their AI-driven drug discovery program. The new model will allow them to expeditiously screen billions of structures to determine which novel compounds are most likely to increase binding affinity, enabling them to continue creating improved second and third generation psychedelic molecules for medical use.

By centering their drug discovery efforts around artificial intelligence (AI) and machine learning (ML), Mydecine is positioned to discover drug enhancements more cost effectively and more efficiently than their competitors. Using AI technology is relatively new in the drug development space and its applications are continuously expanding. The goal of this technology is to eliminate, or drastically reduce, the manual efforts companies typically undergo to identify possible drug improvements. By filtering the drug candidates with AI, the Company is inherently making their investments in later stage drug development more valuable by eliminating potential candidates that are likely to fail early on in the process.

Without AI and ML, based on their hypotheses, companies have to manually synthesize each molecule and individually test the likelihood of a successful binding agent. This process can consume enormous amounts of time and money; therefore, efficiently eliminating candidates likely to fail in preference for candidates that are more promising is extremely valuable.

"AI gives us an incredibly robust tool for screening potential novel psychedelic compounds. This screening gives us increased confidence in investing in the later stages of our drug development and enables rapid development in our pipeline," said Chief Science Officer Rob Roscow.

"Our 5-HT_{2A} AI models construct billions of new drug candidates and filter them for their ability to modulate the 2A receptor activity. These AI models also predict the interactions and

affinity of each drug candidate to the level of a single atom. By considering the unique structural and dynamical fingerprint of the 2A receptor, our AI drug discovery program paves the road towards designing selective 5-HT_{2A} modulators which reduces any potential side effects that may emerge in the future,” said Khaled Barakat, Principal Investigator with Applied Pharmaceutical Innovation.

Mydecine has mainly focused on psilocybin, and its active metabolite psilocin, in their drug development efforts. When ingested, psilocin interacts with the human body’s serotonin receptor 5-HT_{2A} triggering a “psychedelic experience” but perhaps more importantly, [neuroplasticity](#). Neuroplasticity, the [brain’s ability to reorganize](#) its neural pathways to accomplish the needed outcome, is a critical component for successful psychedelic-assisted-psychotherapy.

Psilocybin/psilocin, as it stands in nature, poses a few challenges for successful integration for medical use such as its weak shelf stability and its wide variety of onset time between patients. Both of these characteristics must be improved upon in order to create medication-based treatments that are safe, effective and repeatable. Mydecine will use their AI 5-HT_{2A} model to identify which molecules are most likely to bind to this receptor, enabling them to improve the undesirable characteristics of naturally produced psilocybin/psilocin.

This 5-HT_{2A} receptor model is just the beginning of Mydecine’s planned modeling in production that will continue to enhance their AI-driven drug discovery program. The Company’s AI program has already led to identifying promising enhancements to psilocybin and psilocin which they have included in their recent patent application around MYCO-004, which directly addresses further precision in delivery control and shelf stabilization through a dermal route of administration. To learn more about the benefits of this second-generation psychedelic compound, read the Company’s recent [press release here](#).

Read: [3 Things Investors Should Know About Mydecine’s Artificial Intelligence & Machine Learning Drug Discovery Program](#)

About Mydecine Innovations Group

Mydecine Innovations Group™ (NEO:MYCO) (OTC:MYCOF) (FSE:0NFA) is a biotechnology and digital technology company developing innovative first-and-second-generation novel therapeutics for the treatment of mental health and addiction through world-class technology and drug development infrastructure. Mydecine Innovations Group was founded in 2020 on the guiding principle that there is a significant unmet need and lack of Innovations in the mental health and therapeutic treatment environments. Mydecine Innovations Group is dedicated to efficiently developing innovative therapeutics to treat PTSD, depression, anxiety, addiction, and other mental health disorders. Mydecine Innovations Group's business model combines clinical trials and data outcome, technology, scientific and regulatory expertise with a focus on psychedelic therapy underpinned by other novel molecules with differentiated therapeutic potential. By collaborating with some of the world’s foremost authorities connected by best practices, Mydecine Innovations Group aims to responsibly fast-track the development of new medicines across its platforms, seeking to effectively treat and ultimately change the way we treat mental health disorders. Mydecine Innovations Group's vision is to bridge the current gap between what the mental healthcare system currently provides with the needs of the patients. Mydecine Innovations Group is headquartered in Denver, Colorado, USA with international offices in Leiden, Netherlands.

Learn more at: www.mydecine.com and follow the company on [Twitter](#), [Instagram](#), and [LinkedIn](#).

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For further information about Mydecine Innovations Group, Inc., please visit the Company's profile on SEDAR at www.sedar.com or visit the Company's website at www.mydecine.com.

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Source: Mydecine Innovations Group Inc.