Patent Application Published for PharmAla Biotech's MDMA Analogs

Patent covers 6 novel compositions of matter, which PharmAla has been studying in preclinical testing for over a year

VANCOUVER, British Columbia, Feb. 23, 2023 -- PharmAla Biotech (CSE:MDMA) is pleased to announce the publication of a key Patent Cooperation Treaty (PCT) application containing 6 Novel Chemical Entities (NCEs). The application claims priority to and benefit of a United States provisional patent application filed on August 20, 2021. This PCT application disclosed novel compositions of MDMA and analogs thereof, which may be used to alleviate the known side effects of MDMA while retaining its efficacy.

"PharmAla has already established its manufacturing and regulatory prowess; our research team has also been working hard. Not only has PharmAla done extensive *in-vivo* preclinical research to validate our hypotheses around these molecular compositions, we have also been meeting with regulators to discuss moving into clinical trials. We look forward to disclosing the results of those meetings shortly," said Dr Harpreet Kaur, Vice President of Research PharmAla Biotech. "Our goal is to support both the novelty and inventiveness of our applications with extensive data – which will allow us to move rapidly not just on securing intellectual property, but also into clinical research."

Building on preclinical animal studies completed at the University of Arkansas School for Medical Sciences (UAMS), PharmAla has developed compelling evidence of the improved safety pharmacology of its ALA series of MDMA Analogs; This includes evidence of diminishing hyperthermia reduced stimulant-like effects, and cardiotoxicity, while retaining its therapeutic effects. The ALA series is composed of 3 distinct NCEs. The PharmAla Patent Application also countenances the composition of 3 novel compositions of 1,3-benzodioxolyl-N-methylbutanamine (MBDB), a lesser-known analog of MDMA, which also presents an improved toxicology profile based on animal models; PharmAla refers to these compositions as the ABA series.

"Our *in vivo* research program has been operating for almost a year and a half and has generated excellent data into the effects of these compositions in behavioral and physiological models in rodents," said Dr William Fantegrossi, Principal Investigator for PharmAla Biotech at UAMS. "We've been both pleased at how accurate our hypotheses were but also surprised at several novel positive features of the compositions. We look forward to sharing these data with patent offices and regulators worldwide."

PharmAla continues to build what it believes to be the best pipeline of novel entactogenic molecule drug candidates in the world.

"In the long term, we see our two business lines as intensely synergistic," said Nick Kadysh, CEO, PharmAla Biotech. "As we work to expand distribution of our GMP LaNeo MDMA in new markets, we are also working hard to ensure that these networks can support our novel molecules subject to positive clinical trial results."

For more information, please visit www.PharmAla.ca, where you can sign up to receive regular new updates.

About PharmAla

PharmAla Biotech Holdings Inc. (CSE: MDMA) is a biotechnology company focused on the research, development, and manufacturing of MDXX class molecules, including MDMA. PharmAla was founded with a dual focus: alleviating the global backlog of generic, clinical-grade MDMA to enable clinical trials, and to develop novel drugs in the same class. PharmAla is a "regulatory first" organization, formed under the principle that true success in the psychedelics industry will only be achieved through excellent relationships with regulators. Our team of dedicated professionals includes regulatory experts, scientists, and biomanufacturing professionals. PharmAla has built what it believes to be North America's first cGMP MDMA value chain, encompassing GMP manufacturing of Active Pharmaceutical Ingredient (API), and drug product formulation. PharmAla's research and development unit has also begun preclinical research into two patented Novel Chemical Entities (NCEs) based on MDXX class molecules, with proof-of-concept research currently ongoing at the University of Arkansas School for Medical Sciences in the United States and at InterVivo Solutions in Canada. For more information, visit www.PharmAla.ca.

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adequacy or accuracy of this release.

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