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Algernon Pharmaceuticals Confirms DMT Increased Growth of Neurons by 40% in Preclinical Study at Sub Hallucinogenic Dose

VANCOUVER, British Columbia, Sept. 07, 2021 (GLOBE NEWSWIRE) -- Algernon Pharmaceuticals Inc. (CSE: AGN) (FRANKFURT: AGW) (OTCQB: AGNPF) (the "Company" or "Algernon") a clinical stage pharmaceutical development company, is pleased to announce that it has confirmed in its own preclinical study, that AP-188 ("N,N-Dimethyltryptamine" or "DMT"), increased the growth of cortical neurons by 40% with statistical significance in one arm of the study, when compared to control. Algernon also reports that the increased growth was achieved with a sub hallucinogenic dose.

Professor David Olson of the University of California, Davis was the first to investigate the decoupling of DMT's psychedelic effects from its therapeutic effects in an *in vitro* study and Algernon has now validated this important discovery with its own *in vitro* study conducted by Charles River Laboratories.

This initial data set is from the first part of the Company's *in vitro* experiments designed to provide information on the dose and duration of infusion needed to achieve maximal cortical neurite outgrowth as well as the underlying mechanism of the drug's action. The second data set from the study will focus on the duration of treatment time ranging from 1 hour to 72 hours and is expected to be completed by the end of October 2021.

The overall purpose of these studies is to identify a blood concentration and exposure time to target in the Company's Phase 1 study to optimize the neuroplastic effects of DMT without triggering hallucinations.

"These exciting *in vitro* data provide further evidence supporting the use of DMT in stroke, and strongly suggest that low doses and short exposure times are feasible," said Dr. Rick Strassman, author of the book **DMT: The Spirit Molecule** and Algernon Stroke Program Consultant.

Study Data

In the study, rat primary cortical neurons were treated with DMT or vehicle for one hour at varying concentrations, and then allowed to grow for three days, at which point the cells were fixed, stained, and examined for neurite outgrowth. Ketamine was used as a positive control. The one-hour exposure in the Algernon study is dramatically less than the 72-hour exposure window explored and reported by Olson in his experiments with DMT.

In a preliminary analysis, an increase of 40% in the number processes per cell was observed in the group treated with 30 nM DMT ($p < 0.01$; one-way ANOVA, Dunnett's multiple comparison test). Significant growth was also observed at concentrations as low as 100 picomolar. These concentrations are well below measured levels in humans required to achieve psychedelic breakthrough. The positive control ketamine also stimulated process growth, although at higher concentrations than were required with DMT. Further analysis of the study data is in progress.

"We are very excited to have now independently confirmed with our own study that DMT is active in stimulating neuroplasticity," said Christopher J. Moreau, CEO of Algernon Pharmaceuticals. "It is also vital to have shown that this activity in the neurons can be achieved with a sub hallucinogenic dose and with only 1 hour of exposure, a dramatically shorter period when compared to Olson's study. Things are moving along very quickly, and we are looking forward to the final data set from this preclinical study and starting our Phase 1 human study as soon as possible."

About DMT

Algernon has established a clinical research program for the treatment of stroke focused on DMT, a known psychedelic compound that is part of the tryptamine family (other drugs in the tryptamine family include psilocybin and psilocin). Algernon plans to be the first company globally to test DMT for stroke in humans.

Algernon has also filed new provisional patents for new forms of DMT, in addition to formulation, dosage and method of use claims for ischemic stroke. The Company has also filed claims for combination therapy of DMT and Constraint Induced Movement Therapy ("CIMT").

About Algernon Pharmaceuticals Inc.

Algernon is a drug re-purposing company that investigates safe, already approved drugs, and naturally occurring compounds, for new disease applications, moving them efficiently and safely into new human trials, developing new formulations and seeking new regulatory approvals in global markets. Algernon specifically investigates compounds that have never been approved in the U.S. or Europe to avoid off label prescription writing.

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