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Algernon Pharmaceuticals Discloses Novel DMT Salt Patent Strategy Includes Bioactive Nicotinate and Pamoate

VANCOUVER, British Columbia, July 05, 2022 (GLOBE NEWSWIRE) -- Algernon Pharmaceuticals Inc. (the "Company" or "Algernon") (CSE: AGN) (FRANKFURT: AGW0) (OTCQB: AGNPF) a clinical stage pharmaceutical development company is pleased to disclose that as part of its intellectual property patent applications filed in early 2021 for AP-188 ("N,N-dimethyltryptamine" or "DMT"), the Company included nicotinate and pamoate as novel salt forms of DMT. Nicotinate and pamoate are commonly used counterions when producing salts.

A novel salt form of a drug is a new and separate structure from the original compound and is considered a new composition of matter, anchoring the Company's novel patent filings. Many drug compounds' core structures can be paired with another compound to form a salt. Different salts can improve the core drug in several ways, including improved efficacy, safety/tolerability, and stability.

The Company also announces that in its own binding study of nicotinate and pamoate, the salts showed, when compared to fumarate, the most studied form of DMT, that they had similar binding to the 5-HT_{2A} and sigma-1 receptors; key receptors in the brain that are activated by DMT.

In addition to improved physicochemical properties, nicotinate and pamoate are not inert, but in fact have shown neuronal activity independent of DMT and may assist with the efficacy of DMT as a potential treatment for stroke.

In a mouse model of ischemic stroke, pamoate (in the form of pamoic acid) alone displayed neuroprotective effects including reduced infarct volume, oxidative stress and iron deposition, as well as improved motor function compared to vehicle controls. Benefits were seen even when treatment was delayed by one hour.¹ [STUDY 1](#)

Nicotinate (in the form of nicotinic acid or niacin) is a form of vitamin B₃ and is an essential nutrient. In a rat stroke model, nicotinic acid alone significantly increased markers of neuroplasticity, and complementary *in vitro* studies showed an increase in BDNF/Trk-B expression.² [STUDY 2](#)

Furthermore, in another rat stroke study, niacin alone was able to improve functional recovery even when treatment is started 24 hours after the occurrence of the occlusion and there is no significant difference in lesion volume.³ [STUDY 3](#)

The Company believes that it has maximized its intellectual property position around DMT, which includes filing patent applications for new novel bioactive salt forms, as outlined

herein, as well as dosing, formulation, and method of use patent applications for stroke rehabilitation.

“Shortly after filing our PCT application, we received a Written Opinion from the International Searching Authority that DMT nicotinate and DMT pamoate are novel and non-obvious, and appear to be patentable,” said Christopher J. Moreau, CEO of Algernon. “Since DMT on its own is naturally occurring and is therefore unpatentable as a new chemical entity, Algernon’s strategy is to ensure that along with trying to achieve good clinical data, the Company has a correspondingly strong intellectual property position that is unique and protectable.”

About DMT

N,N-Dimethyltryptamine, or DMT, is a hallucinogenic tryptamine drug producing effects similar to those of other psychedelics like LSD, ketamine, psilocybin and psilocin. DMT occurs naturally in many plant species and animals and has been used in religious ceremonies as a traditional spiritual medicine by indigenous people in the Amazonian basin. DMT can also be synthesised in a laboratory.

Several preclinical studies have demonstrated that DMT helps mitigate tissue damage and promote neurogenesis as well as structural and functional neural plasticity, with significance. These are key factors involved in the brain’s ability to form and reorganize synaptic connections, which are needed for healing following a brain injury.

About Algernon Pharmaceuticals Inc.

Algernon is a drug re-purposing company that investigates safe, already approved drugs, including 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.

1. Sharmin O, Haque Abir A, Potoi A, Alam M, Banik J, Towheedur Rahman AFM, Tarannum N, Wadud R, Farhad Habib Z, Rahman M. *Scientific Reports* 10, 9400 (2020).
2. Cui, X, Chopp M, Zacharek A, Roberts C, Buller B, Ion M, Chen J. *Stroke* 41(9), 2044 (2010).
3. Chen J, Cui X, Zacharek A, Jiang H, Roberts C, Zhang C, Lu M, Kapke A, Feldkamp CS, Chopp M. *Annals of Neurology* 62(1), 49 (2007).

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Source: Algernon Pharmaceuticals