Cybin Announces Promising Results from Sponsored Kernel Flow® Feasibility Study Measuring Psychedelic Effects on the Brain

January 18, 2023

- Study supports earlier findings and demonstrates that Kernel Flow provides a functional measure of blood oxygenation changes in the brain associated with neural activity -

TORONTO--(BUSINESS WIRE)-- Cybin Inc. (NEO:CYBN) (NYSE American: CYBN) (**Cybin** or the **Company**), a biopharmaceutical company focused on progressing Psychedelics to Therapeutics® today announced key highlights from the completed feasibility study conducted by its partner HI, LLC dba Kernel ("**Kernel**"), evaluating Kernel's Flow ® wearable technology to measure ketamine's psychedelic effect on cerebral cortex hemodynamics. Results from this Cybin-sponsored study are intended to inform the future pathway for this program.

"The results from the feasibility study are very promising and provide further insights into the potential of this cutting-edge wearable technology to quantify neural activity and changes in brain biomarkers during the administration of psychedelics. The possibility of using this technology to develop a predictive tool to aid in identifying appropriate candidates for psychedelic-based therapy is also quite exciting, as is the convenience of a portable device, which could lend itself to more widespread use in clinical settings," said Doug Drysdale, Chief Executive Officer of Cybin.

"Looking ahead, we remain focused on expanding our scientific understanding of the effects and mechanisms of action of psychedelics on the brain – all with the ultimate goal of developing safe and effective treatments for a range of mental health conditions," concluded Drysdale.

Key Findings from the Feasibility Study:

- Provided important proof-of-principle for Kernel Flow as a portable functional system that provides real-time measurements of blood oxygenation changes in the brain associated with neural activity using Time Domain Near Infrared Spectroscopy ("TD-fNIRS").
- Demonstrated ketamine-induced changes to functional brain biomarkers associated with potential therapeutic effects, including alterations in cortical function associated with psychedelic experiences.
- Ketamine led to a brain-wide reduction in the fractional amplitude of low frequency fluctuations ("**fALFF**") and a decrease in the global brain connectivity of the prefrontal region compared to saline. It has been suggested that fALFF is of particular functional importance within the default mode network, which has been shown to be modulated by psychedelics and is associated with a range of neuropsychiatric conditions.
- A model combining neural and physiological metrics successfully predicted mystical experience scores on Revised Mystical Experience Questionnaire, which has been shown in previous research to mediate reductions in depressive symptomatology.
- Demonstrated reliable physiological measurements of pulse rate ("**PR**") and pulse rate variability (" **PRV**") extracted from TD-fNIRS recordings that match those obtained from commercial external photoplethysmography sensors, thus rendering the use of external sensors to measure cardiac activity unnecessary in future experiments.
- Ketamine led to increased PR, decreased PRV, increased absolute concentrations of oxy-hemoglobin and decreased deoxy-hemoglobin concentrations, and elevated electrodermal activity (measured by an external sensor), providing further physiological measures of the effects of the ketamine doses administered in the study.

"This study can be regarded as an important step toward larger-scale clinical studies using Kernel Flow to quantify the impact of psychedelics, or other neuroactive substances and central nervous system drugs, on the brain," said Bryan Johnson, Founder and Chief Executive Officer of Kernel. "The feasibility study demonstrated the successful application of the portable Kernel Flow neuroimaging system to measure effects of the psychoactive substance ketamine on brain hemodynamics and provided preliminary evidence that a combination of neural and physiological metrics can track subjective mystical experiences."

Feasibility Study Design

The study was a single-blind, placebo-controlled, non-randomized design with participants completing study visits roughly once a week for four weeks. The four study visits were always conducted in the same order: a screening visit, two dosing visits, and a follow-up phone call. Dosing visits were always placebo (saline, 0.9% NaCl) first and ketamine second, with the ketamine visit occurring one week (7.1±0.5 days, mean ±SD) after the saline visit. Ketamine and saline were administered via bolus intramuscular injection (deltoid muscle). Ketamine dosing was based on participant weight with a target of 0.75 mg/kg, up to the maximum dose of 60 mg. Two participants were administered the maximum dose. Participants included 15 healthy individuals who

met eligibility criteria and consented to participation in the study. There were eight females and seven males, all 24-48 years old.

The main objective of the feasibility study was to evaluate a participant's experience wearing Kernel Flow while in an altered state of consciousness following the administration of ketamine.

The feasibility study received U.S. Food and Drug Administration Investigational New Drug authorization in October 2021 and U.S. Institutional Review Board approval in January 2022.

As part of Cybin's sponsorship of the feasibility study, the Company will retain an exclusive interest in any innovations that are discovered or developed through its independent analysis of the study findings.

About Kernel Flow®

Kernel Flow is a wearable headset that measures brain activity by recording local changes in blood oxygenation. It is adjustable, can accommodate nearly anyone and is safe. Kernel Flow is a groundbreaking neurotechnology because it reduces loud, expensive, and room-sized equipment to a head-worn apparatus while providing neural activity data of the highest possible optical quality. This combination has never existed in such a commercial and scalable device, all factors for why brain interfaces and neuroimaging technology has largely remained in academic labs or hospital basements. The entire system is the size and look of a bicycle helmet and could, in the future, be more broadly used for neuroscientific or physiological studies of brain activity during treatment.

About Cybin

Cybin is a leading ethical biopharmaceutical company, working with a network of world-class partners and internationally recognized scientists, on a mission to create safe and effective therapeutics for patients to address a multitude of mental health issues. Headquartered in Canada and founded in 2019, Cybin is operational in Canada, the United States, the United Kingdom, the Netherlands and Ireland. The Company is focused on progressing Psychedelics to Therapeutics by engineering proprietary drug discovery platforms, innovative drug delivery systems, novel formulation approaches and treatment regimens for mental health disorders.

Cautionary Notes and Forward-Looking Statements

Certain statements in this press release constitute forward-looking information. All statements other than statements of historical fact contained in this press release, including, without limitation, statements regarding Cybin's future, strategy, plans, objectives, goals and targets, and any statements preceded by, followed by or that include the words "believe", "expect", "aim", "intend", "plan", "continue", "will", "may", "would", "anticipate", "estimate", "forecast", "predict", "project", "seek", "should" or similar expressions or the negative thereof, are forward-looking statements. Forward looking statements in this news release include statements regarding the anticipated results and potential uses of the Kernel Flow technology, the ability of Kernel Flow to potentially assist in and/or serve as a tool in respect of the identification and development of treatment regimens, the Company's plan to engineer proprietary drug development platforms, innovative drug delivery systems, novel formulation approaches, potential treatment regimens for psychiatric disorders and development of medicinal psychedelics to address unmet medical needs.

These forward-looking statements are based on reasonable assumptions and estimates of management of the Company at the time such statements were made. Actual future results may differ materially as forward-looking statements involve known and unknown risks, uncertainties, and other factors which may cause the actual results, performance, or achievements of the Company to materially differ from any future results, performance, or achievements expressed or implied by such forward-looking statements. Such factors, among other things, include: implications of the COVID-19 pandemic on the Company's operations; fluctuations in general macroeconomic conditions; fluctuations in securities markets; expectations regarding the size of the psychedelics market; the ability of the Company to successfully achieve its business objectives; plans for growth; political, social and environmental uncertainties; employee relations; the presence of laws and regulations that may impose restrictions in the markets where the Company operates; and the risk factors set out in the Company's management's discussion and analysis for the three and six month periods ended September 30, 2022 and the Company's annual information form for the year ended March 31, 2022, which are available under the Company's profile on www.sedar.com and with the U.S. Securities and Exchange Commission on EDGAR at www.sec.gov. Although the forward-looking statements contained in this news release are based upon what management of the Company believes, or believed at the time, to be reasonable assumptions, the Company cannot assure shareholders that actual results will be consistent with such forward-looking statements, as there may be other factors that cause results not to be as anticipated, estimated or intended. Readers should not place undue reliance on the forward-looking statements and information contained in this news release. The Company assumes no obligation to update the forward-looking statements of beliefs, opinions, projections, or other factors, should they change, except as required by law.

Cybin makes no medical, treatment or health benefit claims about Cybin's proposed products. The U.S. Food and Drug Administration, Health Canada or other similar regulatory authorities have not evaluated claims regarding psilocybin, psychedelic tryptamine, tryptamine derivatives or other psychedelic compounds or nutraceutical products. The efficacy of such products has not been confirmed by approved research. There is no assurance that the use of psilocybin, psychedelic tryptamine, tryptamine derivatives or other psychedelic compounds or nutraceuticals can diagnose, treat, cure or prevent any disease or condition. Vigorous scientific research and clinical trials are needed. Cybin has not conducted clinical trials for the use of its proposed products. Any references to quality, consistency, efficacy and safety of potential products do not imply that Cybin verified such in clinical trials or that Cybin will complete such trials. If Cybin cannot obtain the approvals or research necessary to commercialize

its business, it may have a material adverse effect on Cybin's performance and operations.

Neither the Neo Exchange Inc. nor the NYSE American LLC stock exchange have approved nor disapproved the contents of this news release and are not responsible for the adequacy and accuracy of the contents herein.

Investors & Media:
Leah Gibson
Vice President, Investor Relations & Strategic Communications
Cybin Inc.
irteam@cybin.com - or - media@cybin.com

Gabriel Fahel
Chief Legal Officer
Cybin Inc.
1-866-292-4601

Source: Cybin Inc.