

Mindset Pharma Presents Poster at Neuroscience 2022 Highlighting Preclinical Data on MSP-1014, its Psilocybin-like Lead Drug Candidate

Tolerability of MSP-1014 May Be Superior to Psilocybin

Toronto, Ontario- November 14, 2022 - [Mindset Pharma Inc.](#) (CSE: MSET) (FSE: 9DF) (OTCQB: MSSTF) ("Mindset" or the "Company"), a drug discovery company developing novel, optimized, next-generation psychedelic and non-psychedelic medications to treat neuropsychiatric and neurological disorders with unmet medical needs, today announced data from preclinical studies comparing its novel prodrug of psilocin, MSP-1014, side-by-side to psilocybin across a battery of studies evaluating safety, behavioral and pharmacokinetics properties of both psilocin prodrugs. Joseph Araujo, Chief Scientific Officer, Director of Mindset Pharma, presented the findings at Neuroscience 2022 hosted by the Society of Neuroscience (SfN) in a poster titled "[The Preclinical Safety, Behavioural and Pharmacokinetics Properties of MSP-1014, a Novel Prodrug of Psilocin.](#)"

Psilocybin is a dihydrogen phosphonate prodrug of psilocin, which is thought to mediate antidepressant effects primarily by activation of 5-HT_{2A} receptor subtype. While psilocin showed partial agonism effect at the 5-HT_{2A} receptor, both psilocybin and MSP-1014 exhibited substantially lower EC₅₀ and E_{max} values compared to psilocin, consistent with the fact that the psychedelic effects of psilocybin are mediated by its major metabolite, psilocin.

Mouse and rat pharmacokinetics studies verified that, like psilocybin, MSP-1014 is rapidly and completely metabolized to psilocin, particularly by the oral (PO) route. Behavioral evaluation of psilocybin (0-10 mg/kg) in the mouse showed that the head twitch response, which is a behavioral correlate of 5-HT_{2A} target engagement, was higher following subcutaneous (SC) administration of MSP-1014 compared to psilocybin at the same doses. At 3 and 10 mg/kg, both locomotor activity (LMA) and core body temperature (BT) were reduced following administration of psilocybin, but not MSP-1014, which suggests MSP-1014 may be better tolerated than psilocybin.

MSP-1014 was also evaluated in a drug discrimination assay in which rats were trained to discriminate a psilocybin cue from saline. MSP-1014 displayed complete generalization to the psilocybin cue with a similar ED₅₀ and duration of action (~4 hr) at equimolar doses. The safety of a single administration of MSP-1014 was compared to equimolar doses of 1, 5 and 30 mg/kg psilocybin (PO) and the safety profile of both drugs was similar with transient decreases in both LMA and BT being the primary behavioral observations. No change in clinical pathology parameters were observed for either drug and the no observable adverse effect level exceeded the doses tested.

"These data indicate that MSP-1014 is a rapidly metabolized prodrug of psilocin and is likely to exert similar efficacy to psilocybin in improving symptoms of depression in difficult to treat patient populations," said Joseph Araujo, CSO of Mindset Pharma. "Moreover, the attenuation of reduced LMA and BT compared to psilocybin in mice suggests that tolerability of MSP-1014 may be superior to psilocybin and we look forward to evaluating MSP-1014 in patients in the near future."

About Mindset Pharma Inc.

Mindset Pharma Inc. is a drug discovery and development company focused on creating optimized and patentable next-generation psychedelic medicines to treat neurological and psychiatric disorders with unmet needs. Mindset was established in order to develop next-generation pharmaceutical assets that

leverage the breakthrough therapeutic potential of psychedelic drugs. Mindset is developing several novel families of next-generation psychedelic compounds, as well as an innovative process to chemically synthesize psilocybin in addition to its own proprietary compounds. The company has a co-development agreement with the McQuade Center for Strategic Research and Development, a member of the Otsuka Pharmaceuticals family of companies, for its short-duration compounds, Mindset Families 2 & 4.

For further information on Mindset, please visit our website at www.mindsetpharma.com.

For more information, please contact:

Investor Contact:

Allison Soss
KCSA Strategic Communications
Email: MindSet@kcsa.com
Phone: 212-896-1267

Media Contact:

McKenna Miller
KCSA Strategic Communications
Email: MindSet@kcsa.com
Phone: 949-606-6585

Company Contact:

James Lanthier, CEO
Email: jlanthier@mindsetpharma.com

Jason Atkinson, VP, Corporate Development
Email: jatkinson@mindsetpharma.com
Phone: 416-479-4094

Forward-Looking Information

This news release contains certain "forward-looking information" within the meaning of applicable securities law. Forward looking information is frequently characterized by words such as "plan", "expect", "project", "intend", "believe", "anticipate", "estimate", "may", "will", "would", "potential", "proposed" and other similar words, or statements that certain events or conditions "may" or "will" occur. These statements are only predictions. Forward-looking information is based on the opinions and estimates of management at the date the information is provided and is subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking information. Additional information regarding risks and uncertainties relating to the Company's business are contained under the heading "Risk Factors" in the Company's annual information form for the financial year ended June 30, 2020 dated March 5, 2021. The forward-looking information included in this news release is made as of the date of this news release and the Company does not undertake an obligation to publicly update such forward-looking information to reflect new information, subsequent events or otherwise, except as required by applicable law.

NEITHER THE CANADIAN SECURITIES EXCHANGE NOR ITS REGULATIONS SERVICES PROVIDER HAVE REVIEWED OR ACCEPTED RESPONSIBILITY FOR THE ADEQUACY OR ACCURACY OF THIS RELEASE.

