

Nirvana Life Sciences Inc. Deuterates 7-Hydroxymitragynine to Create D7-h, an Analogue that May Improve Research and Formulations using Kratom Derivatives

VANCOUVER, BC, Sept. 22, 2022 /CNW/ - Nirvana Life Sciences Inc. (Nirvana or the "Company") (CSE: NIRV), a western Canadian based life sciences company aimed at developing psychedelic therapeutic medicines, including non-addictive chronic pain and relapse preventing products is pleased to report filing of a patent for D7-h.

Nirvana Life Sciences Inc. is pleased to announce it has recently filed a patent for the deuterated form of 7-hydroxymitragynine (D7-h), the active compound in kratom responsible for the opiate like effect the plant produces when ingested. Opioid use disorder and opioid addiction remain at epidemic levels in Canada, the US and worldwide. In 2021, there were 7560 apparent opioid-related deaths in Canada, which is equivalent to 20 people dying each day, and was greater than the average number of Canadians killed daily in motor vehicle collisions. This number continues to grow, with the PHAC projecting as many as 2400 opioid-related deaths in each quarter of 2022.

The use of Kratom in Southeast Asia has been documented back for at least 150 years and is described both as having a stimulant effect for use in hard day labor when fresh leaves are chewed and an analgesic and relaxing effect if brewed into a tea. In the past decade or more, recognition and the use of kratom has grown in Canada, the United States, and the world at large. Although use has increased, there still remains a lack of research regarding kratom and the various different components within it that are active when taken. One important observation that has been made is that people who take kratom do not see the same respiratory decrease that is often the cause of death and overdose in people who take opiates. This is due to 7-hydroxymitragynine being a partial mu opioid agonist, unlike Fentanyl and oxycodone which are full mu opioid agonists and are known to have depressant effects on respiration.

With so many people affected by opioid use disorder, opioid addiction, and the risk of death from using these substances, research into alternative pain formulations is more than ever necessary. In order to create a medicine that has the potential to truly help people with addictions and those living with chronic pain, it is important to have a deep understanding of how these compounds work in the brain and body. Scientists and doctors have long used deuterated drugs to help track how a drug moves through the brain and body, in order to gain a better understanding of its mechanisms.

A deuterated drug is a small molecule medicinal product in which one or more of the hydrogen atoms contained in the drug molecule have been replaced by its heavier stable isotope deuterium. Because of the kinetic isotope effect, deuterium-containing drugs may have significantly lower rates of metabolism, and hence a longer half-life, as can be seen with Deutetrabenazine, a deuterated version of tetrabenazine, developed by Teva and approved by the FDA in 2017 for the treatment of chorea associated with Huntington's disease. Applications of the deuterium isotope effect have increased over time, and it is now applied extensively in mechanistic research focused on the metabolism of drugs, as well as with many other studies that focus on safety, efficacy, tolerability, bioavailability, and pharmacokinetics (PK).

Nirvana Life Sciences Inc. knows the importance of creating a deuterated form of 7-

hydroxymitragynine (D7-h) in order to gain a better understanding of the mechanisms of this compound in the body, including knowledge about safety, bioavailability, efficacy, pharmacokinetics (PK) and more. It is our hope that researchers at Nirvana Life Sciences Inc. and elsewhere will be able to use D7-h to fill the gap in knowledge that exists about kratom, to then create safer and more effective alternatives to opiates for people struggling with addiction and chronic pain.

Robert August, lead chemist and Head of Innovation with Nirvana Life Sciences Inc., stated "With research in chronic pain and addiction, and developing treatments for these, being at the forefront of the mission of Nirvana Life Sciences Inc., we are hopeful to see how this development may change not just science, but the lives of many people." We couldn't agree more and are thrilled to add D7-h to our growing portfolio of novel compounds, formulations and processes focused on chronic pain, addiction and trauma.


About Nirvana Life Sciences Inc.

Nirvana Life Sciences Inc. has been founded with a simple objective of researching and developing non-addictive pain management and relapse prevention products that can provide healthier outcomes for patients who live with chronic pain and/or have battled with addiction. Nirvana believes that using naturally sourced psychedelics in novel formulations holds the promise of delivering non-addictive solutions that are effective in managing pain and addiction. Nirvana's team, consisting of leading researchers from around the globe, will develop therapies that have the potential of freeing millions from addiction and saving society billions of dollars annually

Forward Looking Statements

This news release contains certain forward-looking statements and forward-looking information (collectively referred to herein as "forward-looking statements") within the meaning of Canadian securities laws including, without limitation, statements with respect to the future investments by the Company. All statements other than statements of historical fact are forward-looking statements. Undue reliance should not be placed on forward-looking statements, which are inherently uncertain, are based on estimates and assumptions, and are subject to known and unknown risks and uncertainties (both general and specific) that contribute to the possibility that the future events or circumstances contemplated by the forward-looking statements will not occur. Although the Company believes that the expectations reflected in the forward-looking statements contained in this press release, and the assumptions on which such forward-looking statements are made, are reasonable, there can be no assurance that such expectations will prove to be correct. Readers are cautioned not to place undue reliance on forward-looking statements included in this document, as there can be no assurance that the plans, intentions or expectations upon which the forward-looking statements are based will occur. By their nature, forward-looking statements involve numerous assumptions, known and unknown risks and uncertainties that contribute to the possibility that the predictions, forecasts, projections and other forward-looking statements will not occur, which may cause the Company's actual performance and results in future periods to differ materially from any estimates or projections of future performance or results expressed or implied by such forward-looking statements. The forward-looking statements contained in this news release are made as of the date hereof and the Company does not undertake any obligation to update publicly or to revise any of the included forward-looking statements, except as required by applicable law. The forward-looking statements contained herein are expressly qualified by this cautionary statement.

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