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## Madrigal Develops Treatment for PTSD Based on Psychedelic Drugs

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Madrigal Mental Care, a biopharmaceutical company developing a delivery system for psychedelic drugs, introduces its nanotechnology for the treatment and prevention of post-traumatic stress disorder (PTSD).

The advanced nanotechnology-based system is a breakthrough nasal spray that enables nose-to-brain delivery of organic nanoparticles. These biodegradable nanoparticles encapsulate molecules of psychedelic substances, such as psilocybin, the active ingredient in magic mushrooms, as well as ketamine, mescaline, MDMA and others. The nanotechnology was invented by Prof. Amnon Sintov, Department of Biomedical Engineering at Ben-Gurion University of the Negev ([BGU](#)) and was licensed from BGN Technologies, the Technology Transfer Company of BGU.

"An increasing number of studies point to the advantages of using psychedelic drugs for the treatment of psychiatric disorders such as PTSD, depression, anxiety, obsessive compulsive disorder, and even addiction, with low doses," said Prof. Sintov. "Due to their powerful effect on the human brain, it is imperative to be able to deliver these drugs in a safe manner and in precise doses. Our novel nanotechnology platform enables encapsulation of precise drug doses in nanoparticles that are delivered directly to the brain via an intranasal spray, in a very efficient, fast, and safe manner."

"Our technology ensures a focused and fast delivery of accurate doses of psychoactive substances. The nanoparticles are biodegradable and provide a significant advantage over common practices in terms of stability and accuracy," stated David Gabay, co-founder, and chairman of Madrigal Mental Care.

"In vitro studies, which were carried out by Prof. Shimon Ben-Shabat from the Department of Biochemistry and Pharmacology at BGU, show that the psilocybin doses used in the

nanoparticles have a beneficial effect on inflamed brain cell cultures. We are currently beginning preclinical trials with rodents with the aim of achieving efficacy and safety approvals in order to begin first-in-human clinical trials next year. We have great confidence that this novel technology will propel forward the field of psychedelic-based treatments, for the benefit of millions of people around the world coping with chronic and acute psychiatric conditions such as PTSD and depression."

Dr. Galit Mazooz Perlmutter, senior vice president of Business Development, Bio-Pharma at BGN Technologies, noted: "There is a vast need for better treatments for PTSD and other mental disorders. We have filed a patent application to protect this unique approach, which is an excellent example of the kind of breakthrough technologies originating from top scientists at the Ben-Gurion University."

Read the [original article](#) on European Pharmaceutical Manufacturer.