

# Seelos Therapeutics

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## Companies are starting to bet big on psychedelic drugs to treat US mental health epidemic

Psychedelic medicine is having a moment.

Last year, the US Food and Drug Administration (FDA) approved esketamine to treat depression, making it the first-ever psychedelic drug to receive the regulatory green light in the US, with UK authorities also giving their approval for the ketamine-like drug a few months later.

MDMA, commonly known as ecstasy meanwhile, has been given breakthrough therapy designation by the US regulator for post-traumatic stress disorder (PTSD). Against this backdrop, a flourishing new sub-sector of the life sciences industry is emerging.

READ: MindMed launches drug development program Project Lucy to treat anxiety disorders with LSD

For most, psychedelic drugs conjure up images of the 1960's, hippies tripping out on LSD or magic mushrooms. However, early studies are finding that psilocybin - the active agent in magic mushrooms - could treat addiction, depression, anxiety and mental health conditions like post-traumatic stress disorder (PTSD).

Similarly, cancer patients with painful anxiety over their illness have found more peaceful acceptance after participating in a study that involved intensive therapy and being given a drug that was once a symbol of the 60's counterculture.

While there are many parallels with the development of the cannabis industry, the trailblazers in the field of psychedelics are keen to stress the differences, particularly with reference to the recreational element of the former.

"Psychedelics weren't born of the counterculture. They were killed by it," says a report by investment bank Canaccord Genuity, authored by Tania Gonsalves and Scott McFarland, which provides some of the first in-depth analysis of the sector.

Once dismissed as a "party drug" for its hallucinogenic effects, ketamine is emerging as a novel alternative treatment for depression. The approval of Johnson & Johnson's (NYSE:JNJ) nasal spray antidepressant that is chemically similar to often-abused ketamine, shines a light on New York-based Seelos Therapeutics (NASDAQ:SEEL) which is advancing its own medication for depression.

Wall Street is bullish that Seelos' SLS-002 intranasal ketamine depression drug under development is safe and will reach millions of patients with post-traumatic stress disorder (PTSD) and major depressive disorder (MDD) at risk of committing suicide.

"The market for our SLS-002 depression drug is very large as more than 900,000 people were admitted to the ER for

**Price:** 0.612

**Market Cap:** \$32.6 m

### 1 Year Share Price Graph



September 2019 March 2020 September 2020

### Share Information

**Code:** SEEL

**Listing:** NASDAQ

<b>52 week</b>	<b>High</b>	<b>Low</b>
	1.705	0.42

**Sector:** Pharma & Biotech

**Website:** seelostherapeutics.com

### Company Synopsis:

*Seelos Therapeutics, Inc. is a clinical-stage biopharmaceutical company focused on the development and advancement of novel therapeutics to address unmet medical needs for the benefit of patients with central nervous system (CNS) disorders and other rare disorders. The Company's robust portfolio includes several late-stage clinical assets targeting psychiatric and movement disorders, including orphan diseases.*

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suicidality even though no effective drug treatment exists," Seelos Therapeutics CEO Raj Mehra told Proactive.

In November last year, the FDA granted SLS-002 fast track designation for development of the drug as a treatment of Acute Suicidal Ideation and Behavior (ASIB) in patients with major depressive disorder (MDD).

Seelos has also said it is on track to release additional safety data on the Phase I studies of SLS-002 in the second quarter of 2020.

The psychedelics industry itself is big enough to pique the interest of Big Pharma, with Canaccord Genuity estimating the total market size for all indications under investigation to be as much as \$100 billion. However, it is still start-ups and innovators which are setting the pace.

Mind Medicine (MindMed) Inc (NEO:MMED) (OTCQB:MMEDF) recently launched Project Lucy, a commercial drug development program for the treatment of anxiety disorders. The Reno-based company said it intends to initiate a Phase 2b human efficacy trial that will focus on experiential doses of lysergic acid diethylamide (LSD) administered by a therapist.

MindMed noted that this is the first experiential, psychedelic-assisted therapy to be added to its drug development pipeline.

With the launch of Project Lucy, the company said it is now preparing a total of three Phase 2 commercial drug trials based on psychedelic-inspired medicines, making it one of the most advanced and largest drug development pipelines in the psychedelics industry.

MindMed cofounder and co-CEO JR Rahn, a former Uber employee and Y-Combinator alumnus, believes America was on track to face a mental health crisis before the coronavirus (COVID-19) outbreak, and self-isolation, social distancing, and job losses are exacerbating the problem.

"I went through the Y-Combinator program from where companies like Airbnb and Dropbox developed and I was looking at my friends' companies that were going to put a lot of people out of work," Rahn told Proactive.

"Ultimately, what I saw was that addiction and mental health problems were going to skyrocket in America. These problems were already large, but they were going to get bigger in time. That's all been fast-forwarded now. COVID-19 and the lockdown in terms of isolation just made these problems bigger."

MindMed is making a run at curbing opioid abuse, based on 18-MC, a proprietary non-hallucinogenic molecule derivative of psychedelic ibogaine. Ibogaine comes from iboga, a West African plant whose yellowish root bark induces powerful psychedelic experiences. It has its genesis in healing ceremonies among various African communities.

Among other players, Vancouver-based Champignon Brands Inc (CSE:SHRM) (OTCMKTS:SHRMFF) is planning to open at least five ketamine clinics in North America by the end of 2020. It recently closed the acquisition of AltMed Capital Corp, a Canadian ketamine clinic operator with strong research and development projects.

Empower Clinics Inc (CSE:CBDT) (OTCQB:EPWCF), the CBD product producer and wellness clinic operator, is also leveraging its existing clinic network, which boasts some 165,000 patients and a robust team of physicians, to focus on psilocybin research and psychedelics therapy in the treatment of mental health issues.

Taking the active ingredients of psychedelics and clinically proving their efficacy offers hope for those with post-traumatic stress disorder, alcoholism, anxiety, deep-seated depression and addiction.

"Psychedelics have shown promising efficacy across a broad range of both mental and substance abuse disorders," the analysts at Canaccord said in their research note. "Together, the targeted indications affect over one-billion people globally."

## Your need-to-know guide to psychedelics:

### Psilocybin

Found in over 200 species of mushrooms.

Potential uses: Depression, anxiety, addiction, OCD (obsessive-compulsive disorder), anorexia, obesity, cluster headaches, Alzheimer's disease.

### Lysergic acid diethylamide (LSD)

Chemically combined lysergic acid and diethylamide.

Potential uses: Cluster headaches, depression, anxiety, pain syndromes, alcoholism, ADHD (attention deficit hyperactivity disorder)

### Ibogaine

Found in the root bark of a West African shrub.

Potential uses: Alcoholism, addiction and smoking cessation.

### Methylenedioxymethamphetamine

A popular club drug that's sold in pills (ecstasy) or as a powder (MDMA)

Potential uses: PTSD, anxiety and alcoholism.

### Ketamine

Used for starting and maintaining anaesthesia

Potential uses: Treatment-resistant depression PTSD, anxiety, alcoholism, pain syndromes and chronic fatigue syndrome.

## US companies to watch:

**Codebase Ventures Inc** (CSE:CODE) (OTCMKTS:BKLLF) (FSE:C5B): Focused on investing in the psychedelic healthcare sector through subsidiary Titan Shrooms and Psychedelics Inc

**Back of the Yards algae sciences** (Private): Mycelial and plant entheogen therapeutics for major mental health challenges including PTSD.

**CB Therapeutics** (Private): Developing cannabinoids and tryptamine-based compounds (psilocybin and psilocin) for neuroscience.

**Champignon Brands** (OTCMKTS:SHRMF): Focused on using psilocybin to treat mental health disorders.

**Empower Clinics** (OTCQB:EPWCF): US-focused wellness clinic operator getting into psychedelic treatment.

**Mind Medicine (MindMed)** (OTCQB:MEDF): Neuro-pharmaceutical company that discovers, develops and deploys psychedelics.

**Mota Ventures** (CSE:MOTA): An ecommerce retailer of CBD products in Europe and the US that recently entered the

psychedelics market.

**NewLeaf Brands** (CSE:NLB): Recently agreed to acquire Colorado-based Mydecine Group for \$1.2mln, a mycology company.

**Orthogonal Thinker** (Private): A holding company focused on health and well-being through clean label, whole plant products, including psychoactive compounds.

**Psybio Therapeutics** (Private): Developing biosynthetic psychoactive compounds.

**PsyGen** (Private): A GMP-grade manufacturer of pharmaceutical psychedelic drug products for clinical research and therapeutic applications.

**Revive Therapeutics** (OTCPINK:RVVTF): Life sciences company with a pharmaceutical IP portfolio that utilizes Bucillamine, psychedelics and cannabis to focus on rare inflammatory areas such as gout, lung inflammation, liver disease, ischemia and depression

**Seelos Therapeutics** (NASDAQ:SEEL): A clinical-stage biopharmaceutical company focused on CNS and rare disorders. It is advancing multiple programs through clinical trials.

**Silo Wellness** (Private): A vertically integrated recreational psilocybin mushrooms company.

**Tabula Rasa Ventures** (Private): A VC investing in legalized psychedelics.

**WAKE** (Private): Fungi and plant-based medicine

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