

# Psilocybin

## What is Psilocybin?

Psilocybin is a natural psychedelic compound found in over 200 species of mushrooms, often called “magic mushrooms”. When you consume psilocybin, your body converts it into psilocin, which is the compound that has the psychedelic effect on your brain. Its chemical structure is very similar to serotonin, a key player in regulating your mood. This similarity allows psilocin to interact with serotonin receptors, particularly those that influence mood and perception, creating the unique experiences associated with psilocybin.

## Where is it found?



You can find psilocybin in mushrooms from the *Psilocybe* genus, with *Psilocybe cubensis* being one of the most well-known. These mushrooms pop up in different regions around the globe, including North and South America, Europe, and Asia. Their natural abundance has made them a significant part of many indigenous cultures, where they've been used for centuries in spiritual practices.

Although many countries in the world have made possession and use of “magic mushrooms” illegal, some countries do not prohibit the possession and use of “magic truffles”. These aren’t the same as the truffles used in gourmet dishes. Magic truffles are actually sclerotia, a hardened mass of fungal mycelium that grows underground, unlike mushrooms, which produce a visible fruiting body above ground. Despite their different forms, both work similarly in the body, converting psilocybin into psilocin to produce psychedelic effects.



## Metabolism and Mechanism of Action

After you consume psilocybin, it quickly turns into psilocin in your liver. Psilocin then makes its way to your brain, where it interacts with serotonin receptors, particularly the 5-HT<sub>2A</sub> receptor. This interaction is what triggers the psychedelic effects, including changes in perception, mood and thought processes. Psilocin gets absorbed into your system pretty fast, with effects kicking in within 20 to 40 minutes. The peak experience usually hits between 90 minutes to 2 hours after consumption, and the overall effects last around 4 to 6 hours. Psilocin is eventually broken down by your liver and leaves your body through urine.

## Traditional use

Psilocybin-containing mushrooms have a long history of use in traditional cultures, especially in Central and South America. Indigenous groups like the Mazatec in Mexico have used these mushrooms in religious and spiritual ceremonies to achieve altered states of consciousness and connect with the divine. These practices were typically guided by a shaman, who ensured a safe and sacred environment for the experience. For these cultures, using psilocybin wasn't just for fun – it was deeply rooted in their spiritual and healing traditions.



## Effects as a psychedelic

When you take psilocybin as a psychedelic, it can lead to some profound changes in how you see and think about the world. Many people report seeing vivid visuals, hearing unusual sounds, and feeling a deep connection to the world around them. These experiences can be incredibly insightful, often leading to lasting positive changes in mood, creativity, and overall wellbeing. Some users describe a sense of “ego dissolution”, where the boundaries between themselves and the rest of the world blur, creating a powerful feeling of unity and oneness. This spiritual aspect is believed to be responsible for the long-term positive effects on mental health that some people experience.



## Physical effects

The physical effects of psilocybin are usually mild. You might notice a slight increase in your heart rate and blood pressure, along with dilated pupils. Some people experience nausea or stomach discomfort, especially as the effects start to kick in. These physical symptoms generally fade as the experience progresses. Unlike many other substances, psilocybin isn't known to be addictive, and its physical impact is considered relatively gentle.

## Side effects and safety

While psilocybin is physically safe, it can come with some psychological side effects. Some people might experience anxiety, paranoia, or confusion, and in rare cases, even panic attacks. These negative effects are more likely if you have pre-existing mental health conditions or if you're in a stressful or unfamiliar environment. Managing the psychological side of psilocybin is key since the experience can sometimes be overwhelming.

In terms of toxicity, psilocybin has a low risk. Overdosing is extremely unlikely because the lethal dose is much higher than what you'd typically take recreationally or therapeutically. However, the intensity of the experience can sometimes lead to risky behavior, so having a trusted person with you in a safe environment is always a good idea.

## Who should be careful?

Psilocybin isn't for everyone. If you have a history of schizophrenia, bipolar disorder, or other serious mental health issues, you should be cautious. It's also not recommended for those who are pregnant or breastfeeding. The setting in which you take psilocybin matters a lot too. A safe, supportive environment – often called “set and setting” – is crucial to having a positive experience. Your mental state (the “set”) and your physical and social environment (the “setting”) play big roles in shaping your experience.



## Psychedelic-Assisted Psychotherapy

Lately, psilocybin has been making waves in the world of mental health, particularly in psychedelic-assisted psychotherapy. Research shows that psilocybin, combined with therapy, could help with conditions like depression, anxiety, PTSD, and addiction. For example, a study from Imperial College London<sup>1</sup> found that just one dose of psilocybin provided lasting relief from depression, with effects lingering for up to six months.

Psilocybin has also shown promise in helping patients with terminal illnesses cope with anxiety and existential distress. Research at Johns Hopkins University<sup>2</sup> revealed that psilocybin therapy significantly reduced anxiety and depression in patients with life-threatening cancer, improving their quality of life and spiritual well-being.



In addiction treatment, psilocybin-assisted therapy has helped some people overcome addictions to substances like alcohol and nicotine. A study from Johns Hopkins<sup>3</sup> found that 80% of participants remained smoke-free six months after their psilocybin therapy.

## Research

Research into psilocybin's safety and effectiveness is growing rapidly. Clinical trials have shown that, when used in a controlled setting, psilocybin can offer profound and lasting psychological benefits with minimal risks. As research continues, there's hope that psilocybin could become a widely accepted treatment in the field of mental health.

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- <sup>1</sup> Carhart-Harris, R. L., Bolstridge, M., Rucker, J., Day, C. M., Erritzoe, D., Kaelen, M., ... & Nutt, D. J. (2016). Psilocybin with psychological support for treatment-resistant depression: an open-label feasibility study. *The Lancet Psychiatry*, 3(7), 619-627.
  - <sup>2</sup> Griffiths, R. R., Johnson, M. W., Carducci, M. A., Umbricht, A., Richards, W. A., Richards, B. D., ... & Klinedinst, M. A. (2016). Psilocybin produces substantial and sustained decreases in depression and anxiety in patients with life-threatening cancer: A randomized double-blind trial. *Journal of Psychopharmacology*, 30(12), 1181-1197.
  - <sup>3</sup> Johnson, M. W., Garcia-Romeu, A., & Griffiths, R. R. (2014). Long-term follow-up of psilocybin-facilitated smoking cessation. *The American Journal of Drug and Alcohol Abuse*, 40(5), 269-275.

