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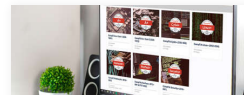
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"Homebrew" Psilocybin Created By Scientists Using "Widely Available" Materials

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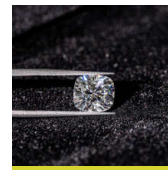
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EDITOR'S BLOG

RESEARCHERS HOPE TO SYNTHESIZE LARGE QUANTITIES OF PSILOCYBIN WITHOUT HAVING TO GR
IMAGE: CONTENT_CREATOR/SHUTTERSTOCK.COM

Large quantities of [psilocybin](#) – the psychoactive compound in [magic mushrooms](#) – can be produced in a rudimentary “homebrew style environment” that doesn’t even need to be sterilized, according to a new study in the journal [Bioengineered](#). While recreational users will still find it easier to obtain the psychedelic drug by growing or hunting mushrooms, the development of moonshine psilocybin (shroomshine?) could enable the production of large quantities of the compound for clinical use.

A swathe of recent studies have hinted at the therapeutic potential of psilocybin, primarily as a treatment for [depression](#) and other mental health disorders. However, growing and harvesting magic mushrooms is not considered an economically feasible means of meeting clinical demand, due to the slow production process and high product variability.

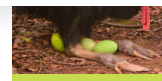
For this reason, scientists have spent the last few years creating genetically engineered microorganisms that can synthesize psilocybin quickly and cheaply. [Last year](#), researchers revealed that they had successfully created the compound using yeast, although the complexity and cost of the process left room for improvement.

Building on this previous work, the authors of the new study claim to have developed an extremely cheap method of producing psilocybin using a genetically edited strain of the *E. coli* bacteria. Magic mushroom genes that code for the biosynthesis of psilocybin were first inserted into the microbe’s genome, before the researchers set up their own homemade lab with which to manufacture the compound.



By
**Benjamin
Taub**

06 OCT 2021,
15:16



Cassowaries May
Have Been
Domesticated
Before Chickens By
Brave (Or Foolish)
Humans



Our

Climate Projections
For 2500 Show An
Earth That Is Alien
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a form of penicillin to the mix, thereby eliminating the need for sterilization.

“In less than [two] days, we successfully produced approximately 300 mg/L of psilocybin under simple conditions with easily sourced equipment and supplies,” write the study authors.

“This work demonstrates the biosynthesis of psilocybin at concentrations in the 100s of mg/L are possible even when the sterile techniques and equipment common to a research laboratory environment are disregarded.”

Having achieved this feat, they go on to explain the need to regulate the materials involved in order to prevent the unlicensed manufacture of psilocybin. Given that the edited strain of *E. coli* is fairly easy to obtain from certain laboratories, they propose that the microorganism itself be subject to strict controls and regulations.

At the same time, however, they recognize the legal complexity of this approach, as the bacteria itself does not contain any psilocybin and should not, therefore, be made illegal. Because of this, they suggest that it may be more appropriate to regulate a compound called 4-hydroxyindole, which must be added to the bacterial culture in order to stimulate psilocybin production.

Whatever steps are taken to prevent people from setting up their own Breaking Bad-style psilocybin labs, the study authors say it's imperative not to impede the production of this fascinating [psychedelic](#) for clinical use, and believe their “homebrew” method could help make the drug more widely available for suitable patients.

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Natural medicine

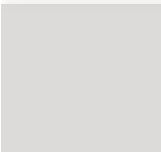
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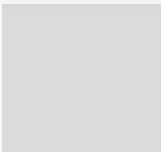


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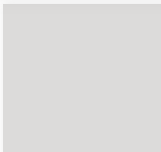


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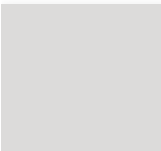


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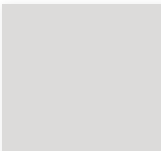


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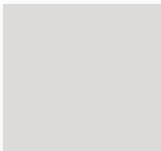


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