

Brewer's yeast could be used to produce rare cannabis-derived compounds that treat anxiety, pain

The yeast that people have used for millennia to brew alcoholic drinks has now been engineered to produce cannabinoids — chemicals with medicinal and sometimes mind-altering properties found in cannabis.

The feat, described on 27 February in *Nature*, turns a sugar in brewer's yeast (*Saccharomyces cerevisiae*) called galactose into tetrahydrocannabinol (THC), the main psychoactive compound in cannabis (*Cannabis sativa*). The altered yeast can also produce cannabidiol (CBD), another major cannabinoid that's attracted attention lately for its [potential therapeutic benefits](#), including its anti-anxiety and pain-relief effects.

The hope is that this fermentation process will enable manufacturers to produce THC, CBD and rare cannabinoids that are found in trace amounts in nature more cheaply, efficiently and reliably than conventional plant-based cultivation.

...

To build their cannabinoid factory in yeast, synthetic biologist Jay Keasling at the University of California, Berkeley, and his colleagues modified several genes found in *S. cerevisiae*, and introduced others from five types of bacteria and from the cannabis plant. In total, they needed to make 16 genetic modifications to transform galactose into inactive forms of THC or CBD. Heating the cannabinoids switches them into their active forms....

Read full, original article: [Scientists brew cannabis using hacked beer yeast](#)