

Understanding how ketamine helps the brain deal with depression

The promise of ketamine, an anesthetic drug primarily used at sub-anesthetic doses to either manage severe pain or send recreational users into a tranquilized and euphoric fugue, is that it could reduce the onset of an antidepressant effect from weeks to hours.

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[Recently,] the FDA [approved](#) esketamine, the s-enantiomer of ketamine, as a therapy for patients with treatment-resistant depression, but the mechanism underlying the drug's efficacy remains poorly understood. [In a session at the] [British Neuroscience Association's Festival of Neuroscience 2019](#), the potential mechanisms of ketamine's antidepressant action were put under examination.

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If your brain wants you to feel good, it's generally going to deploy dopamine, a neurotransmitter with a key role in [pleasure](#) (or at least [motivation](#)), to change your mood. It's no surprise, then, that researchers suspect dopamine is involved in ketamine's ability to make chronically depressed people feel normal again in a matter of hours. Krystal highlighted that ketamine's ability to increase dopamine release in the rodent brain is well established. A follow up talk from the University of Brescia's Ginetta Collo put forward [evidence](#) that ketamine boosts brain plasticity both in dopamine neurons taken from mice and those created from human stem cells.

Read full, original post: [Why Does Ketamine Fight Depression? Finding Answers at BNA 2019](#)