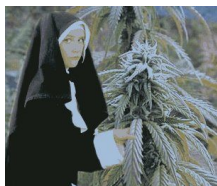


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By: Stefan Anitei, Science Editor



## **Brain's Marijuana Treats Depression**

### *The anandamide and cannabinoid system*

Who said marijuana is bad? In the end, its use as a pain killer in desperate cases is well known. And now it appears that it can also treat the "mental pain", depression, not only the physical one. An American-Italian team led by Daniele Piomelli, the Louise Turner Arnold Chair in Neurosciences and director of the Center for Drug Discovery at the University of California, Irvine has discovered that spurring the levels of a marijuana-like brain transmitter named anandamide had antidepressant effects in lab rats, in a research appearing in the Nov. 15 issue of *Biological Psychiatry*. The scientists developed and employed a drug named URB597, which impedes the breakdown of the anandamide in the brain, by stopping the FAAH enzyme involved in anandamide degradation, a fact that leads to its accumulation. "These findings raise the hope that the mood-elevating properties of marijuana can be harnessed to treat depression. Marijuana itself has shown no clinical use for depression. However, specific drugs that amplify the actions of natural marijuana-like transmitters in the brain are showing great promise." said Piomelli. The URB597 was given to chronically stressed rats which displayed behavioral patterns resembling those observed in depressed human patients. 5 weeks after beginning to receive URB597, the depressed rodents had a behavior similar to that of a control group of undepressed animals. Anandamide, also called "the bliss molecule" because it has a structure similar to THC (delta-9-tetrahydrocannabinol), the active ingredient in marijuana, is a neurotransmitter involved in the brain's endocannabinoid system and previous researches made by Piomelli's team revealed it has an analgesic, anti-anxiety and antidepressant role, but also is connected to feeding control and obesity. By inactivating FAAH, the effects of anandamide are spurred without inducing the "high", like in cases of marijuana consumption. Piomelli developed URB597 together with a team at the Universities of Urbino and Parma in Italy. "The European pharmaceutical company Organon holds the license to the patent and will begin clinical studies on the drug in 2008," said Piomelli.