It has been previously shown that strains of cannabis with high levels of THC and low levels of CBD can cause increased psychiatric effects, including paranoia, anxiety and addictive-behaviours, but why that was occurring was not fully understood. Steven Laviolette, PhD, and his research team used rats to investigate the role of a molecule in the brain's hippocampus called extracellular-signal regulated kinase (ERK) which triggers the neuropsychiatric effects of THC. Laviolette, a professor at Western's Schulich School of Medicine & Dentistry. The research, published in the Journal of Neuroscience demonstrates that rats that were given THC had higher levels of activated ERK, showed more anxiety behaviours and were more sensitive to fear-based learning. Rats that were given both CBD and THC acted like the control rats: they had normal levels of activated ERK, less anxiety behaviours, and were less sensitive to fear-based learning. Based on these results, the research team proposes that CBD blocks the ability of THC to overstimulate the ERK pathway in the hippocampus and thus prevent its negative side-effects. PhD Candidate and Vanier Scholar Roger Hudson, lead author on the study, says another interesting finding was that CBD alone had no effect on the ERK pathway. Laviolette says they will be following up these studies by continuing to identify the specific features of this molecular mechanism. The research team will examine ways to formulate THC with fewer side effects and to improve the efficacy of CBD-derived therapies.

TerraPro CBD gummies (cannabidiol) and THC (tetrahydrocannabinol) are the two major compounds found in the cannabis plant. Each has unique properties, potential health benefits, and side effects. The following article covers CBD and THC, their effects, their legal status, and their safety considerations. CBD and THC are known as cannabinoids. They have very similar chemical structures and activate the same receptors within the body’s endocannabinoid system. Despite their similarity in structure, CBD and THC exert entirely different effects. The most significant difference between these two compounds is that THC is psychoactive. This means it can affect how the brain works. THC activates the body’s “reward” pathways to produce the “high” that’s associated with marijuana use. It does this by activating a cannabinoid receptor called CB1. When THC activates this type of receptor, things like movement, body temperature, and brain function are affected. In contrast, CBD is not considered psychoactive. It does not cause euphoria or a “high,” even at large doses.

(Image: http://cdn.shopify.com/s/files/1/0028/0766/0644/articles/Untitled_design_a30a6b05-3b2c-482a-98b9-b0509d952026_1200x1200.png?v=1592112762)Much of the research on CBD and THC is preclinical, meaning it’s been studied in animal models. Large-scale human trials are necessary to determine if CBD or THC can help treat most of these conditions. Though it does act on cannabinoid receptors, CBD mainly affects other receptors, including serotonin receptors. It may help counteract some of the negative effects of THC, including serious side effects like psychosis. CBD has many purported therapeutic properties. Pain. Overall, there isn’t enough evidence that CBD by itself helps with pain. Some research has shown that high doses can improve neuropathy (nerve pain), though more data is necessary. Anxiety. So far, the results are mixed. Some studies show that CBD can improve symptoms of social anxiety disorder and post-traumatic stress disorder (PTSD), while others show no effect. Seizures. Epidiolex, a purified CBD oil, is approved by the Food and Drug Administration (FDA) for some hard-to-treat types of childhood epilepsy.

(Image: http://upload.wikimedia.org/wikipedia/commons/e/e8/CBD3Oct07Bar.jpg)Brain protection. Animal studies have shown that CBD may have benefits for those who have Alzheimer’s disease or Parkinson’s disease, but human clinical trials are necessary to verify these effects. Effects on animals may or may not translate into benefits for humans. THC is the psychoactive ingredient from the marijuana plant. The possession and use of marijuana and THC-containing products are not legal in all U.S. THC is effective natural remedy for anxiety increasing appetite and for nausea and vomiting related to cancer chemotherapy. Pain. Prescription THC products have been shown to improve neuropathy and quality of life. Spasticity (muscle tightness). Sativex (nabiximols), a mouth spray that

combines THC and CBD, is approved for spasticity in Europe. PTSD. A very small trial found that Cesamet reduced nightmares in 10 military personnel with PTSD. Irritable bowel syndrome (IBS). Smoking THC was found to improve symptoms of IBS, but benefits may be only short-lived. People who used THC long-term were more likely to ultimately require surgery for IBS.