

## **How Hemp Extracts Work in Dogs and Cats: Why THC is Not Needed for Great Results!!!**

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Both dogs and cats, like all animals, have an endocannabinoid system (ECS) in their body, associated with their nervous system, that produces molecules called endocannabinoids. This system also has membrane receptors that these endocannabinoids attach to. When the endocannabinoids bind to the membrane receptor things happen, like pain is reduced or inflammation is lessened. It turns out, purely by coincidence, that the Tetrahydrocannabinol (THC) molecules look to these receptors exactly like the endocannabinoid molecules. We call THC and CBD and the other 100+ plant molecules like them from cannabis; “phytocannabinoids,” as compared to “endocannabinoids”, which are produced by the body.

As early as the 1940’s CBD was discovered, and in the 1960’s THC was discovered. Endocannabinoids and their receptors, and the system they are part of, the Endocannabinoid System (ECS) wasn’t even discovered until the 1990’s. We now know that all animals except insects have an ECS. Even animals as primitive as the hydra, a relative of the jelly fish have endocannabinoids!

The ECS consists of three things: 1. The molecules of endocannabinoids; 2. The membrane receptors that receive the endocannabinoids and THC; and 3. Enzymes that recycle the endocannabinoids and remove them from the receptors, thus ending their activity in the body until they are manufactured anew.

This information is very new, and as a result many people in the cannabis industry aren’t aware of it, or don’t understand it well enough to explain how phytocannabinoids interact with the ECS. The misconception exists that you need THC for cannabis to work medically. This misconception arose when the cannabis plants available for medical use contained mostly all THC. In recent times, with modern breeding practices, the rise of the hemp industry, and the recognition of the importance of CBD, for its medical applications that don’t have the problem of the adverse side-effect of psychotropic feelings associated with THC, the latest thinking on the applications of therapeutic cannabinoids has shifted in favor of CBD. We now know so much more about CBD than we did originally, when people thought that you needed THC to “activate” the CBD.

Scientific and empirical studies demonstrate that CBD surpasses THC in the number of medical conditions it can influence, and is a lot safer because it is not psychotropic. Obviously if you take THC and get high, and it helps your pain, you can actually “feel” the THC working. With CBD, it’s not so obvious, because it doesn’t effect you psychotropically, only medically.

In dogs, THC can send them to the ER because they are so sensitive to its adverse neurological effects. The small amount of THC in low-THC cannabis which is what we call “Hemp”, usually doesn’t affect most dogs adversely, but as a veterinarian, I have seen quite a few dogs that were given hemp and had bad reactions to it. Maybe the product wasn’t analyzed correctly, which can happen, or the dog was accidentally given too much, or something else, but after observing this frequently in my patients, I began to look for a hemp product that did not contain any THC.

I found a hemp supply company in Colorado that has pioneered progressive technology to remove the THC from their hemp without removing anything else, and started to use their zero THC hemp on my patients. I was uncertain at first if I would find it less effective than hemp with its normally low THC amounts. After 2 years and over 40,000 bottles distributed to veterinarians, I am certain that THC is unnecessary for almost every condition, except for cases of severe pain and very aggressive cancers, or for those patients who aren’t responding to the zero THC hemp, which, after 40,000 bottles,

was very, very few. I hear from hundreds of veterinarians monthly who use zero THC hemp in their practices successfully.

I have photographs of tumors going away with zero THC hemp. I have countless testimonials from veterinarians and pet parents that the zero THC hemp extracts work great to reduce pain, eliminate uncomplicated seizures, help with appetite, anxiety and nausea.

Those who say you need THC to “activate” the CBD, just do not understand the physiology of the endocannabinoid system. THC acts like an endocannabinoid in binding to the membrane receptor at the CB1 or CB2 receptor. CBD interferes with the binding strength of the THC with the receptor, and thus, reduces its psychotropic effects. This mitigates or prevents the dog’s psychotropic experience (which they hate) or worse, the neurologic crisis characterized by “static ataxia”. Therefore, CBD can mitigate or eliminate the adverse events associated with THC’s psychoactive effects.

Since CBD is an antidote for the effects of THC, it doesn’t activate it. THC works through many mechanisms of action, many of which are not dependent upon binding to the CB1 or CB2 receptor. CBD does not interfere with these non-receptor mediated effects of THC. CBD works to increase the effect of the body’s own naturally produced endocannabinoids by inhibiting the enzymes that remove the body’s natural THC, the endocannabinoid anandamide, out of CB1 and CB2 receptors.

This is why CBD has such a global effect on the body, affecting all systems, and this is why I prefer, and recommend widely, the use of zero-THC extracts for pets for almost every situation I encounter clinically.

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