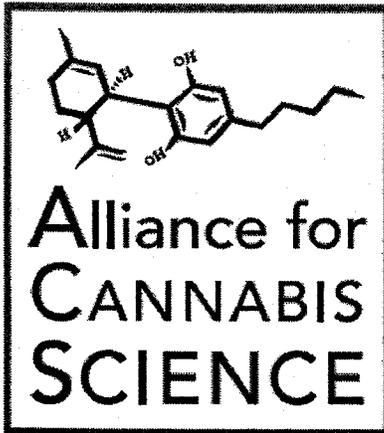


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The Basics

Cannabis is the botanical name for marijuana.

The plant, cannabis, is a source of chemical compounds called cannabinoids.

The human body also creates cannabinoids, and we have cannabinoid receptors. Together, the cannabinoids and their receptors make up **the human cannabinoid system**.

Just as there was a time that we didn't know we had immune systems or hormonal systems, until 1988 we didn't know that we had cannabinoid systems.

The cannabinoids from the cannabis plant fit nicely into human cannabinoid receptors. Thus, the cannabinoids from the cannabis plant can be utilized by the human cannabinoid system.

One of the cannabinoids in cannabis – THC - creates a euphoric effect. The other cannabinoids in cannabis do not. CBD is another cannabinoid in cannabis. CBD has medicinal applications both in conjunction with THC, but also independently of it. Other cannabinoids, such as ~~THC~~, also have likely medicinal applications though there is less data available.

The cannabinoid system participates in physiological functions like appetite, sleep, neuronal growth & migration, cell death, lipid metabolism, pain response, and inflammation, to name only a few.

The existence of the cannabinoid system is not theoretical. It is not even controversial. To find accredited, peer-reviewed material on the cannabinoid system, see PubMed:
<http://www.ncbi.nlm.nih.gov/pubmed/>

More on the Human Cannabinoid System

Our bodies have cannabinoid receptors, that is, places for the cannabinoids to “plug in.” Two receptors that we know about are the CB1 receptor and the CB2 receptor. CB1 receptors are found in the brain, including the basal ganglia, the cerebellum, and hypothalamus, among others. They are also present in high densities at “relay stations in the neural pathways that transmit pain information to the central nervous system.” The female reproduction system is also a hot spot for cannabinoid receptors. CB2 receptors are found primarily in peripheral tissues, particularly on white blood cells and various components of the immune system.

Cannabinoids are generally considered inhibitors. They damp down neurotransmitter release. But this doesn't mean they necessarily damp down neural activity. If you inhibit an inhibitor, you get a release. It's like two negatives equaling a positive.

There are no cannabinoid receptors in the medulla oblongata, the part of the brainstem responsible for respiratory and cardiovascular function. This is likely why there are no fatalities from cannabis use. The big risk with many drugs and pharmaceuticals is respiratory and/or cardiovascular failure. Not so with cannabis. Numerous sources cite that the lethal dose of cannabis would be 40,000 times greater than the dose it takes to create the euphoric effects.

Our bodies don't store cannabinoids. We create them on-demand, such as when the brain's nerve cells begin to fire too much, as in the case of seizures, stress, or an impact to the brain.

Source: Iversen, Leslie. *The Science of Marijuana*, Oxford University Press, 2008.

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