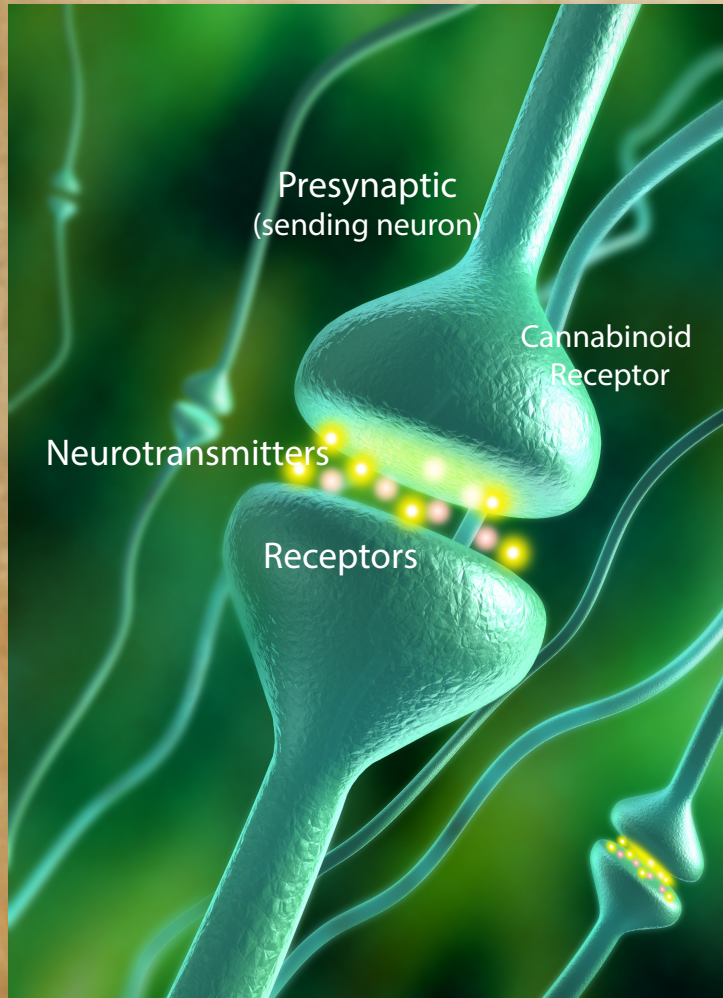


# The Human Endocannabinoid System

The Endocannabinoid System (ECS) is a group of endogenous cannabinoid receptors located in the mammalian brain and throughout the central and peripheral nervous systems, consisting of neuromodulatory lipids and their receptors. Known as "the body's own cannabinoid system", the ECS is involved in a variety of physiological processes including appetite, pain-sensation, mood and memory.

Two primary endocannabinoid receptors have been identified: CB1 and CB2. CB1 receptors are found predominantly in the brain and nervous system, as well as in peripheral organs and tissues, and are the main molecular target of the endocannabinoid ligand (binding molecule), Anandamide, as well as its mimetic phytocannabinoid, THC. One other main endocannabinoid is 2-Arachidonoylglycerol (2-AG) which is active at both cannabinoid receptors, along with its own mimetic phytocannabinoid, CBD. CB2 receptors are found throughout the body in the immune cells.

Receptors are found  
on all cell surfaces



CBD, CBN and THC fit like a **lock and key** into existing human receptors. These receptors are part of the endocannabinoid system which impact physiological processes affecting pain modulation, memory, appetite, plus anti-inflammatory effects and other immune system responses.



**THC**

**Tetrahydrocannabinol**

THC, or tetrahydrocannabinol, is the chemical responsible for most of marijuana's psychological effects. It acts much like the cannabinoid chemicals made naturally by the body. THC binds to the CB1 receptors.



**CBD**

**Cannabidiol**

Cannabidiol is one of at least 113 active cannabinoids identified in cannabis. It is a major phytocannabinoid, accounting for up to 40% of the plant's extract.



**CBN**

**Cannabinol**

CBN acts as a partial agonist at the CB1 receptors, but has a higher affinity to CB2 receptors, however; with lower affinities in comparison to THC.

CB1 receptors are responsible for marijuana's psychoactive effects. They are present in many areas of the brain and play a role in memory, mood, sleep, appetite and pain sensation.

CB2 receptors are responsible for marijuana's anti-inflammatory effects. They are found in immune cells and work to reduce inflammation. Inflammation is an immune response and is believed to be a factor in many diseases and conditions.

