

## YOUR GUIDE TO THE ECS

## THE ENDOCANNABINOID SYSTEM (ECS)

When you think about the major systems in the body, you think: nervous, digestive, and immune systems. However, about 25 years ago, scientists discovered another crucial system in the body--the Endocannabinoid System (ECS).

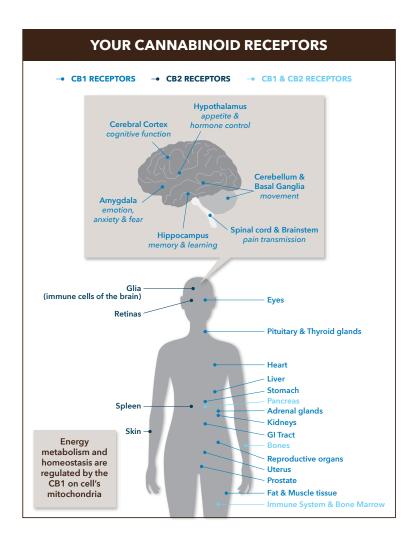
While we still have much to learn about the ECS, what scientists have discovered is that the ECS is vital to our physiological functions. Dr. Vincenzo Di Marzo, one of the leading ECS researchers, discovered that the main functions the ECS affects are those that help us relax, eat, sleep, forget, and protect.

surrounding the cell, the CB1 receptor transmits messages from outside the cell, to the inside. He found that this single receptor is primarily responsible for reacting to THC and causing the intoxicating feelings, or "high."

Soon after the discovery of CB1, the second cannabinoid receptor was found: CB2. This receptor has been found on almost all the organs of the body, especially in the various types of immune cells that travel through the blood.

Here's how it works.

In the body's central and peripheral nervous systems are cannabinoid receptors. The CB1 receptor was first discovered in the early 90's by Dr. Allyn Howlett. It's found on almost every cell in the brain and in some cells within the body. Located in the membrane



Together, the CB1 and CB2 receptors are spread widely throughout the body and the more we learn, the more they seem to be key for tying together the neuronal system, the hormonal system, and the immune system. This helps to explain why cannabis has been used by humans so effectively for so many years.

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## THE ENDOCANNABINOIDS

In the early 90's, Dr. Raphael Mechoulam - who became known as the father of the endocannabinoid system - and his team discovered anandamide - the first cannabinoid neurotransmitter. Now known to be found in all mammals, the cannabinoid neurotransmitters seem to go far back in evolutionary history. Probably before life ever left the ocean.

A few years later, Dr. Mechoulam and his team found a second endocannabinoid called 2-Arachidonoylglycerol (2AG). This is found in the

brain in higher levels than anandamide, and binds directly with the CB1 receptor.

The endocannabinoid system and its messengers (the endocannabinoids) turned out to be involved in virtually all the important physiological processes of the body and brain. The FCS is a

master-regulator system - the body's own method of homeostasis, or balance.

In addition to its interactions with the endocannabinoid system, cannabidiol (CBD) affects many other areas including the serotonin system, the dopamine system, the opioids, GABA and glutamate (our basic inhibitory and excitatory neurons), and many other aspects of the cells in the body tied to genetics. CBD has the ability to enhance the levels of anandamide, our brain's own neurotransmitter, allowing our bodies to reach balance more efficiently.

CBD not only interacts with our ECS, but influences many other pathways as well. Most compounds that humans take do very specific things - perhaps binding to just one or two sites. But for the cannabinoids,

and CBD especially, it's amazing the number of effects that we continue to find. Because CBD influences many parts, it is effective in benefitting human health in more ways than one.

However, the proof is in the pudding.
There's a reason that CBD is flying off the shelves and there's a reason that people are raving about it to

their friends. The effect of CBD on the human body is an important step in human health and personalized nutrition.

Extra content:

Watch 'The Scientist'

Watch 'What Is The Endocannabinoid System?'

