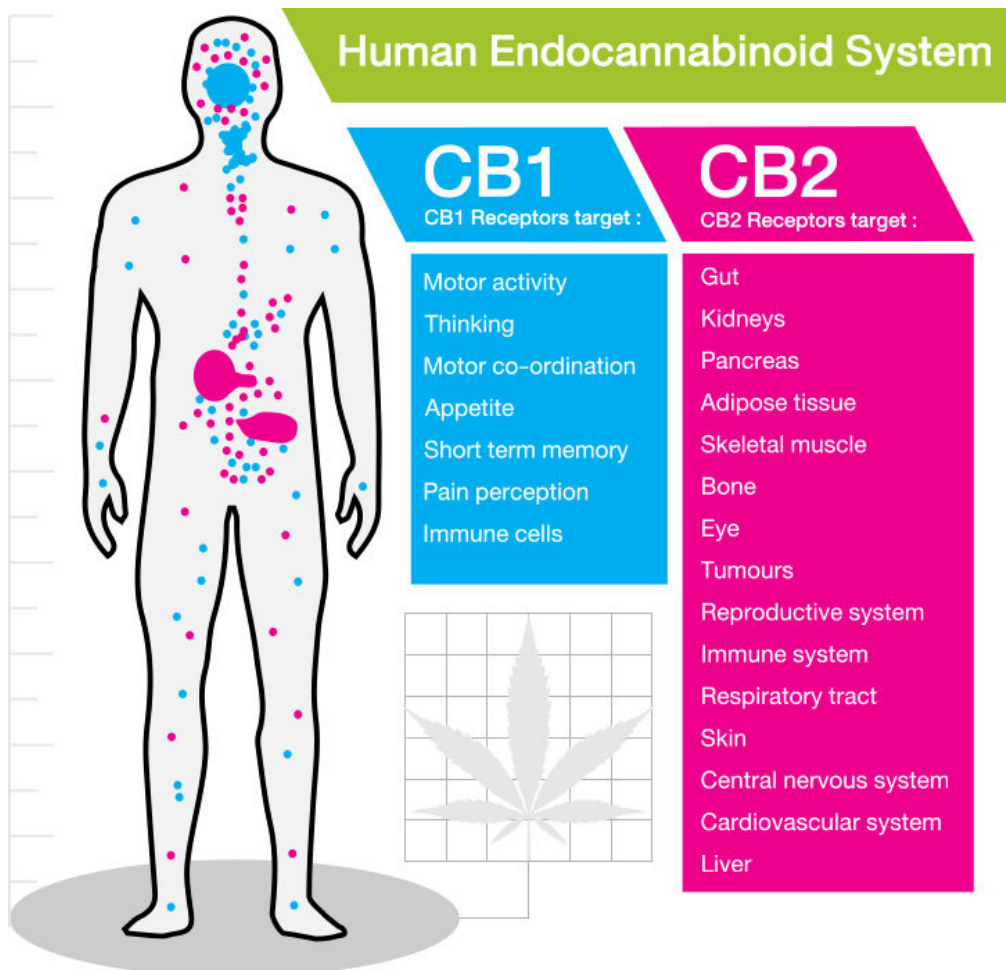


CBD And The Human Endocannabinoid System

It's difficult not to notice that CBD products are being promoted and sold just about everywhere in the UK. Simply type the letters CBD into your favourite search engine and you'll be faced with well over 200 million web pages. Social media is buzzing with countless stories about the wide-ranging health benefits of CBD and anyone, of any age, can very easily buy a variety of CBD products online and in most health food shops. So what is it about CBD that apparently makes it work so effectively for us humans? Why are our bodies so receptive to this particular chemical compound, which is after all, derived from the illegal to use Cannabis or Marijuana plant?

The answer lies deep within our human biology and in particular, a recently discovered and previously unknown *Endocannabinoid System (ECS)*. Between 1988 and 1995, scientists discovered that humans and all other mammals have 2 special receptors in the brain, which they have called cannabinoid receptors. That's because these receptors interact exclusively with **Tetrahydrocannabinol (THC)** and **Cannabidiol (CBD)** compounds, which are found in the cannabis plant. These unique receptors, which have come to be known as CB1 and CB2, are described as Endocannabinoids, which indicates they are produced within (endo) the body. The 2 compounds known as THC and CBD, which the receptors interact with are known as Phytocannabinoids (phyto), meaning they are from or relate to plants.



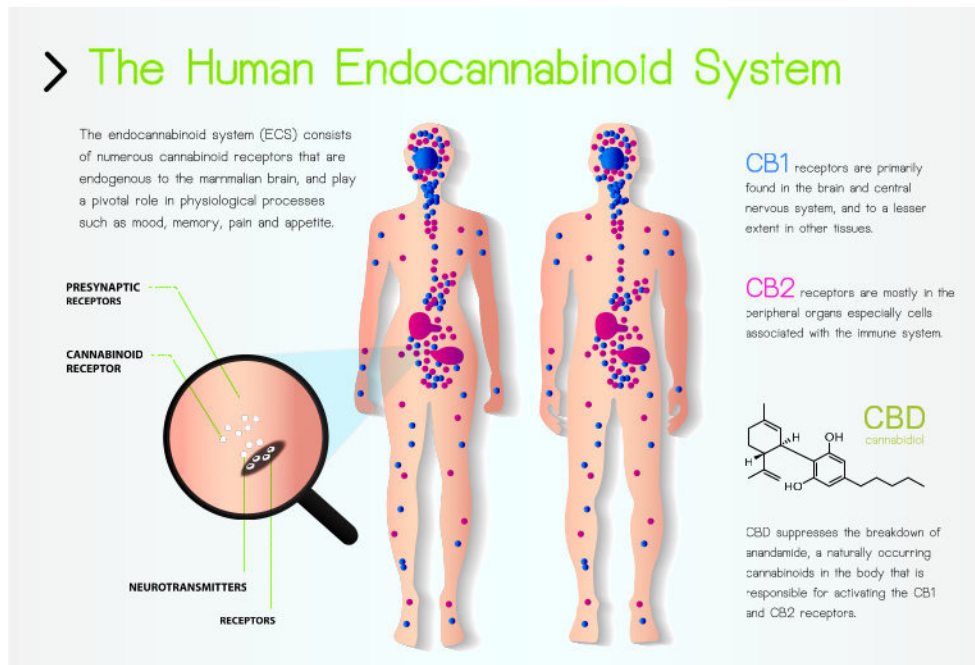
The ECS has proved to be a very important part of human anatomy

The CB1 receptors have been scientifically identified as targeting areas of the brain and body responsible for thinking, eating, pain sensation, the immune system and motor activity and co-ordination. CB1 receptors are found mainly in the brain, the spinal cord and the nervous system. CB2 receptors target the internal organs such as the liver, kidneys and heart together with the pancreas, skin, eyes and the reproductive system. They are also known to interact with the respiratory tract, adipose tissue, muscles, gut and tumours. The ECS is evidently a very important part of our anatomy, which is still being researched by doctors and scientists.

What is even more interesting is that scientists have further discovered that human ECS is not limited to the brain but extends to many other parts and organs of the body. Research has shown that CB1 receptors are concentrated in the brain and the central nervous system. This area controls the body's reaction and sensitivity to pain, stress, memory and motor activity. CB2 receptors, however, are distributed in many other parts of the body and are main components of the immune system, cardiovascular and muscular systems. The most surprising factor in all this is that the body naturally produces Endocannabinoids.

Maintaining a chemical balance

The reason why the body creates Endocannabinoids is to maintain its equilibrium or to regulate its stability. This stable condition is known as Homeostasis. This is often referred to as the "Goldilocks Zone", where the body needs to be kept at a certain temperature or its blood sugar levels or hormones need to be kept within a specific range at a cellular level. Should any deviation be detected within the body's cells then Endocannabinoids are created and activated to ensure a balance is maintained. Once the Endocannabinoids have done their job they are broken down and absorbed by metabolic enzymes.



So in effect, Endocannabinoids are designed to keep the body in a healthy condition. However, like many things in the human body, over time, they will begin to become less effective and especially but not necessarily with age. It's when this deterioration begins that health may begin to suffer, in whatever form that might be. In many respects, you can think of the human body as a kind of machine, where each organ, limb and muscle right down to the molecules of each individual cell, has an important part to play in keeping the body working at optimum levels. When this isn't happening effectively then it will require some maintenance to help put everything back into full working order.

Human cannabinoid receptors

As mentioned earlier, the ECS consists of 2 main Cannabinoid receptors, CB1 and CB2. CB1, which is to be found mainly in the brain and the central nervous system is most receptive to the Cannabinoid THC, which is the chemical compound found in Marijuana. When smoked or ingested THC is responsible for the "high" experience. In the UK it is currently illegal to possess or use this substance. However, CB2 is the Cannabinoid receptor, which is more generally dispersed around the body and it's this receptor that is most receptive to the Cannabinoid CBD (Cannabidiol). CBD has been linked with helping to relieve pain, treat the symptoms of epilepsy, arthritis, some heart conditions, high blood pressure and nausea associated with chemotherapy, together with a whole host of other ailments and bodily disorders.

It would appear logical then that because the human body has at least 2 identified main Cannabinoid receptors (CB1 and CB2), it would respond positively to the addition of a Cannabinoid such as CBD. CBD is after all, the equivalent chemical compound that the body produces naturally. By using CBD in either of its many forms, including oils, sprays and tinctures, the body is effectively being topped up with a beneficial compound that has a known anti-inflammatory effect. The evidence suggests that CBD effectively helps rebalance the body's natural stability mechanism, especially in cases where the body is unable to produce enough of its own Endocannabinoid.

CBD - working in harmony with the Endocannabinoid System (ECS)

The benefits of CBD may sound almost too good to be true to the extent that it appears to offer a remedy for all types of problems and disorders, with more being added to the ever-growing list all the time. For this reason, scientists are still researching the effects and trying to understand why it obviously benefits some people, while others might benefit but to a much lesser degree. It seems certain however that CBD does have many beneficial effects relating to several conditions. Some of those that have been documented include Alzheimer's disease, chronic pain conditions, kidney disease, cardiovascular disease, asthma, eczema, neurological and psychiatric illness, autoimmune disease and many more.