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<https://ibcnj.com/medical-cannabis-mast-cell-activation-syndrome/>

Credit article to: www.TickedOffMastCell.Org

Medical Cannabis & Mast Cell Activation Syndrome

To understand how Medical Cannabis works in the body as a mast cell stabilizer we must first understand how our Endocannabinoid system works.

What is the Endocannabinoid system (ECS)?

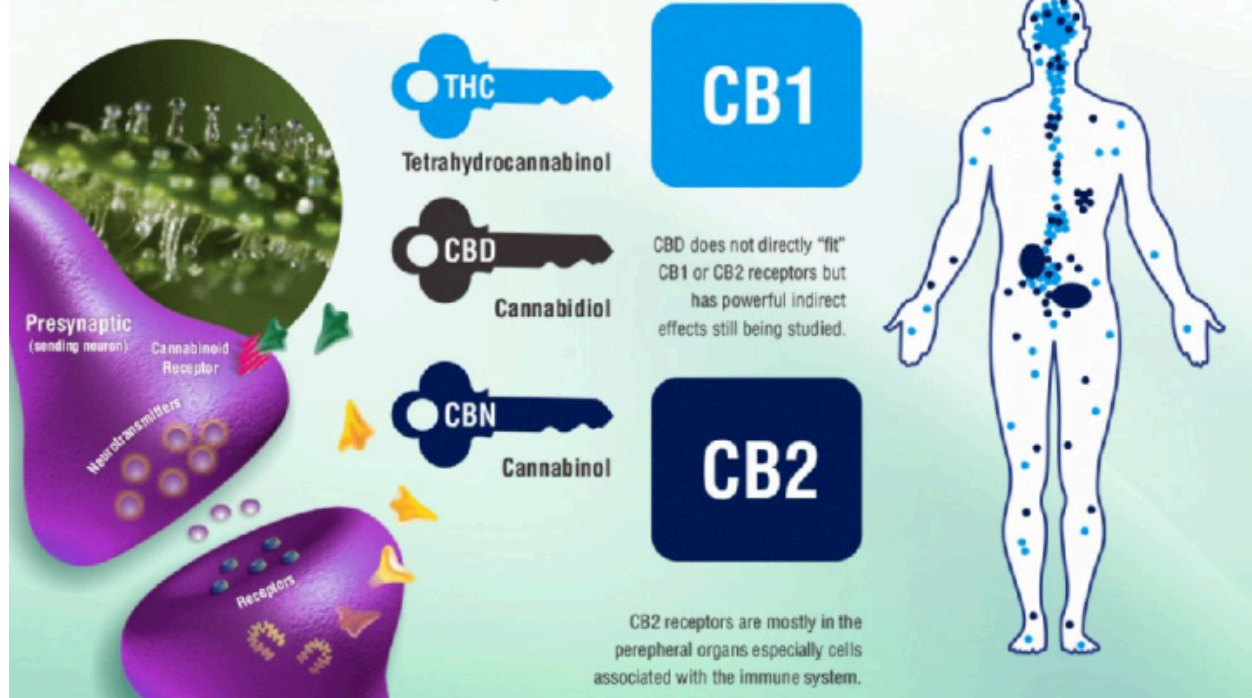
The endocannabinoid system (ECS) refers to a collection of cell receptors and corresponding molecules. You can think of cell receptors like little locks on the surface of your cells. The keys to these locks are chemical molecules called agonists. Each time an agonist binds to a cell it relays a message, causing a cascade of chemical effects.

The Human Endocannabinoid System

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, and appetite plus anti-inflammatory effects and other immune system responses. The endocannabinoid system comprises two types of receptors, CB1 and CB2, which serve distinct functions in human health and well-being.

CB1 receptors are primarily found in the brain and central nervous system, and to a lesser extent in other tissues.

Receptors are found on cell surfaces



The endocannabinoid system is the name for a series of cell receptors that respond to certain kinds of agonists. Two primary cell receptors make up the ECS, Cannabinoid Receptor 1 (CB1) and Cannabinoid Receptor 2 (CB2). The keys to these receptors are called endocannabinoids.

Endocannabinoids are like the body's natural THC. In fact, endocannabinoids got their name from cannabis. Plant cannabinoids were discovered first. Endo means within, and cannabinoid referring to a compound that fits into cannabinoid receptors.

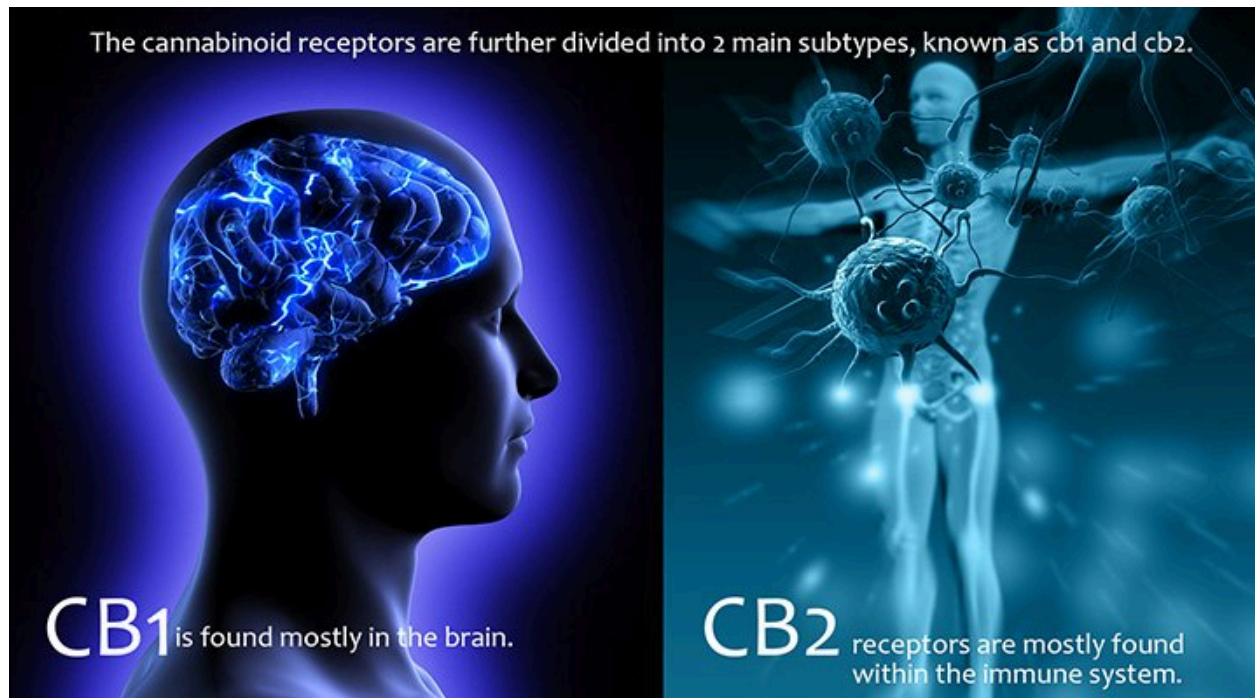
Cannabinoid Receptors

The cannabinoid receptors are found on the surface of the cells. Think of these receptors like a keyhole that will only function if the right key is inserted into it.

There are many types of cannabinoid receptors but only two of them have been widely studied and researched. They are CB1 and CB2.

Each receptor responds to different kinds of cannabinoids, but there are some cannabinoids that don't distinguish between the two and can interact with both.

The distribution of these receptors within the body system explains why cannabinoids have certain profound effects on us.



CB1 receptors are abundantly present in the brain and spinal cord. They are found in exceedingly high concentration in the parts of the brain that are associated with the behaviors they influence.

Most importantly, they are found in the hypothalamus and the amygdala, which are responsible for appetite regulation, control of stress and anxiety, reducing nausea as well as for memory and emotional processing.

CB1 receptors are also present in nerve endings where they act to reduce sensations of pain (one major reason why cannabis is used as a pain killer).

CB2 receptors are usually located in the immune cells of the peripheral nervous system. Once activated, they trigger an immune response to reduce inflammation, a role that is important in treating many chronic diseases.

The presence of CB2 (and CB1) in immune system cells strongly suggests that endocannabinoids are immunomodulators.

CB1 and CB2 Suppress Mast Cells

Mast cells contain CB1 and CB2 receptors, which when activated inhibit mast cell release (R).

Research shows that cannabinoids can suppress mast cell degranulation.

“Cannabinoids are broadly immunosuppressive, and anti-inflammatory properties have been reported for certain marijuana constituents and endogenously produced cannabinoids. The CB2 cannabinoid receptor is an established constituent of immune system cells, and we have recently established that the CB1 cannabinoid receptor is expressed in mast cells. In the present study, we sought to define a role for CB1 in mast cells and to identify the signalling pathways that may mediate the suppressive effects of CB1 ligation on mast cell activation. Our results show that CB1 and CB2 mediate diametrically opposed effects on cAMP levels in mast cells. The observed long-term stimulation of cAMP levels by the Gai/o-coupled CB1 is paradoxical, and our results indicate that it may be attributed to CB1-mediated transcriptional regulation of specific adenylate cyclase isoenzymes that exhibit superactivatable kinetics. Taken together, these results reveal the complexity in signalling of natively co-expressed cannabinoid receptors and suggest that some anti-inflammatory effects of CB1 ligands may be attributable to sustained cAMP elevation that, in turn, causes suppression of mast cell degranulation.”

A leading Mast Cell Activation Syndrome expert Dr. Afrin shares his experience with patients who use Medical Cannabis to help with their mast cell disease symptoms in his book *Never Bet Against Occam*.

“The mast cell surface features (inhibitory) cannabinoid receptors, making me wonder whether at least some of the chronically ill patients out there who claim that the only thing that makes them feel better is marijuana might be unrecognized MCAS patients in whom THC’s binding with the cannabinoid receptors on their dysfunctional mast cells leads to a quieting of the activity of those cells and thus a lessening of symptoms.”

*CBD alone without THC maybe ineffective at treating dysfunctional mast cells because THC has a strong binding affinity for both CB1 and CB2 receptors, cannabidiol (CBD) has no particular binding affinity. Instead, many of the therapeutic benefits of CBD are created through indirect actions.

In another research article,

“Cannabinomimetic Control of Mast Cell Mediator Release: New Perspective in Chronic Inflammation” published in the *Journal of Neuroendocrinology* provides detailed evidence backing up the fact that Medical Cannabis can suppress mast cell degranulation and help alleviate pain and inflammation in patients.

What Is the Best Way to Use Cannabis When You Have MCAS?

**Consult your doctor before making any change in your medical care. When trying Medical Cannabis remember that there are different strains of medical cannabis, one strain may give you great relief vs another may not.*

If you’re considering using Medical Cannabis for Mast Cell Activation Syndrome you’re probably wondering how to take it. There are many Medical Cannabis treatment options available such as: Cannabis Edibles, Topical Ointments, Cannabis Oil, Smoking the Cannabis flower. However, when it comes to MCAS patients who are more severe, they tend to not tolerate

ingesting the Medical Cannabis oil or edibles but may can inhale the actual Organic Medical Cannabis Flower and find great relief from MCAS symptoms.

“In the context of smoked marijuana, cannabinoids gain access to the systemic circulation within minutes of inhalation. However, airways and the gastrointestinal tract are immediate points of contact for cannabinoids constituents, and the resident mast cells in these areas will be impacted by marijuana smoke. Mast cells express CB2 cannabinoid receptors and a variety of responses to cannabinoid application have been described in these cells. In vitro, suppression of mast cell proinflammatory mediator release by both marijuana constituents and endocannabinoids has been described. The marijuana constituent tetrahydrocannabinol (THC) is highly suppressive in in vivo models of mast cell proinflammatory function.

It is recommended that MCAS patients only try organic medical cannabis as different pesticides and fertilizers can cause an allergic response. As with any medication there is a risk of an allergic reaction, so we encourage you to speak with your doctor.

Hemp Oil VS Medical Cannabis Oil

When trying Medical Cannabis Oil it is recommended to only use CBD/THC oils made strictly from medical marijuana for MCAS patients because of safety and superior medicinal benefits vs hemp.

CBD products made from hemp potentially have several problems:

HEMP OIL



The difference between CBD from Hemp and CBD from Cannabis strains

CANNABIS OIL

HEMP OIL

PRODUCT:

Hemp bi-product.

LABELS:

Must state that it is made from hemp.

TESTING:

Due to lax testing outside the U.S. products may be highly contaminated.

INGREDIENTS

GMO's, trans fats & additives

EXTRACTION:

BHO, propane, hexane or hydrocarbons.

HEMP:

Typically low in cannabinoid content. A huge amount of hemp is required to extract a small amount of CBD, raising the risk of contaminants because hemp, a bioaccumulator, draws toxins from the soil.

CANNABIS OIL

PRODUCT:

High level CBD. For maximum therapeutic impact, choose both CBD and THC product.

LABELS:

Show ratio of CBD/THC, a manufacturing date and batch number.

TESTING:

Tested for consistency.

INGREDIENTS:

No corn syrup, GMO's, trans fats or additives.

EXTRACTION:

Non-toxic, supercritical CO2.

CANNABIS:

The robust terpene profile of whole plant cannabis enhances the therapeutic benefits of CBD and THC.

Hemp contains less cannabidiol than CBD-rich cannabis strains so it takes a large amount of industrial hemp to extract a small amount of CBD. Hemp is also a “bio-accumulator” meaning the plant naturally draws toxins from the soil which can cause issues in a MCAS patient.

Hemp-derived CBD and refined CBD powder lack critical medicinal terpenes and secondary cannabinoids found in cannabis oil. These compounds interact with CBD and THC to enhance their medicinal benefits.

MCAS patients want to make sure that the Medical Cannabis oil is CO2 derived as the other extraction process uses Ethanol (High-grade grain alcohol) and will likely cause anaphylaxis in Mast Cell Patients because Ethanol/Alcohol is known to cause mast cell degranulation.

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