

MAST CELL ACTIVATION SYNDROME

&

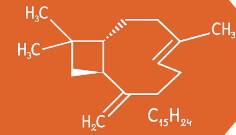
BETA-CARYOPHYLLENE

.....

FROM THE
BLAIR MEDICAL GROUP
EDUCATIONAL LIBRARY

An educational article highlighting current endocannabinoid system
and functional medicine research

INTRODUCTION



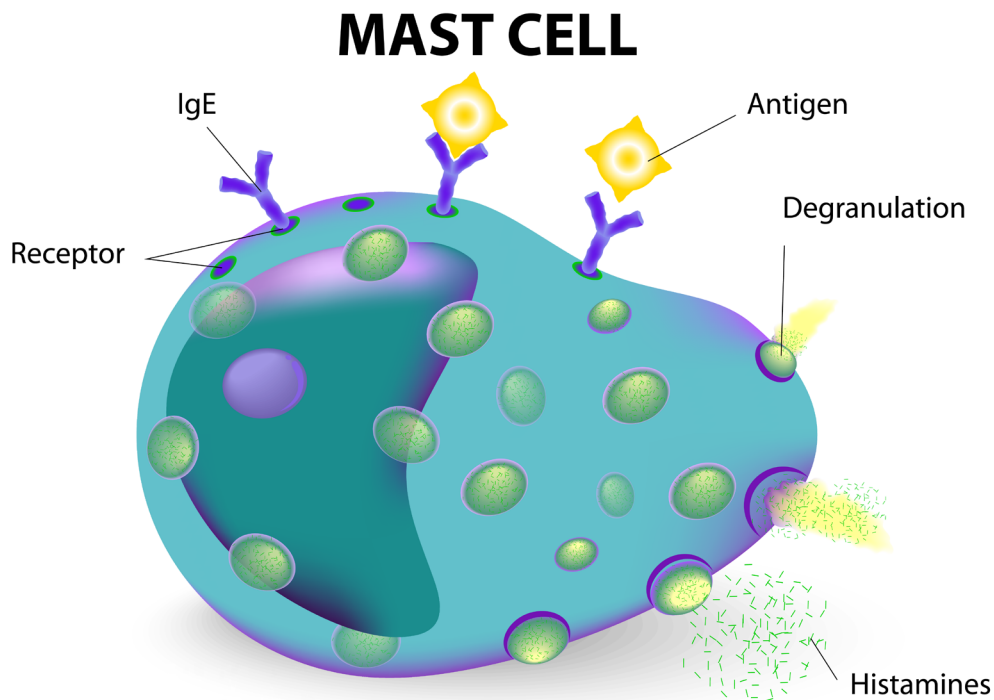
What Is Mast Cell Activation Syndrome?

Mast Cell Activation Syndrome (MCAS) is characterized by overactive mast cells that release too many chemicals at inappropriate times.

With normal body function, mast cells are part of the body's natural line of defense to keep it safe from foreign substances and organisms.

What Are Mast Cells?

Mast cells are multi-functional immune cells. They are a specific type of white blood cell that is created in the bone marrow and then travels to different parts of the body. In normal circumstances, mast cells play an important protective role, helping wounds heal and defending the body from external threats. Mast cells can secrete up to 200 different kinds of chemicals. Each compound has its own action and responds to different triggers, the most important of which is histamine.





How Do Mast Cells Overreact?

When mast cells are activated too easily or inappropriately, the potent compounds they secrete can create serious health disorders that range from chronic fatigue, gastrointestinal issues, immune disorders, allergic sensitivities to neurological problems. Because symptoms of MCAS can appear to be unrelated, this syndrome can be difficult for physicians to identify the actual root cause.

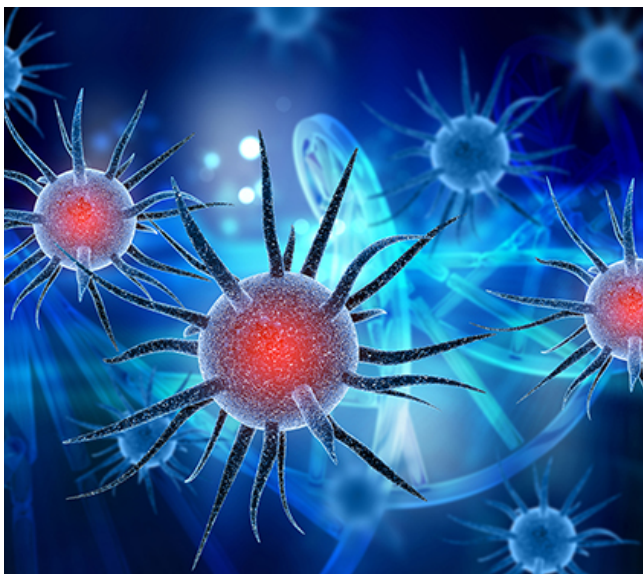
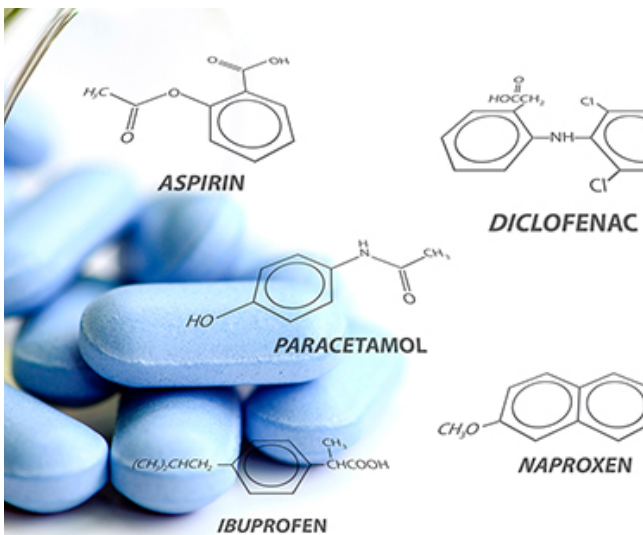
What are the Primary symptoms of MCAS?

- Aches and pain of unknown origin
- Headaches, migraines, dizziness, brain fog, tiredness
- Food sensitivities and allergies
- Skin rashes, itching, or hives
- Stomach problems such as diarrhea, constipation, stomach pain, leaky gut, etc.

Clinical studies and research have identified several potential triggers for mast cell activation. People with MCAS may react to multiple triggers, and these can change over the course of the disorder.²

Commonly documented triggers include:

- Heat, cold or sudden temperature changes
- Stress, fatigue, exercise
- Drugs and medications (opioids, NSAIDs, antibiotics, local anesthetics)
- Natural or chemical odors, perfumes, and scents
- Infections (viral, bacterial, or fungal)

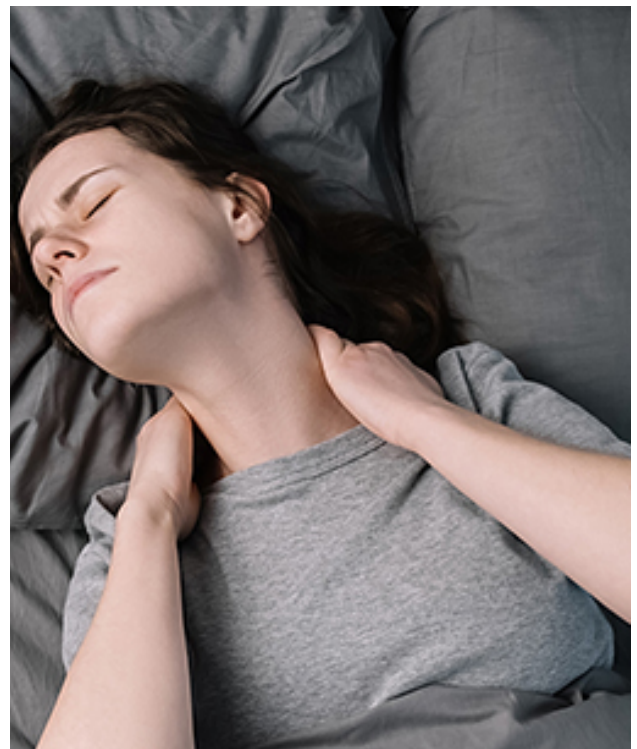
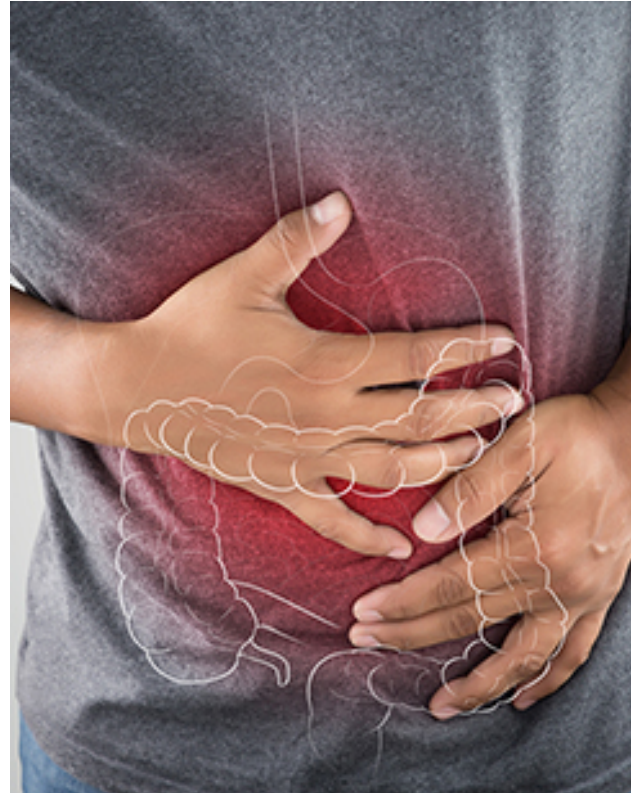


People with MCAS may react to multiple triggers, and these can change over the course of the disorder.

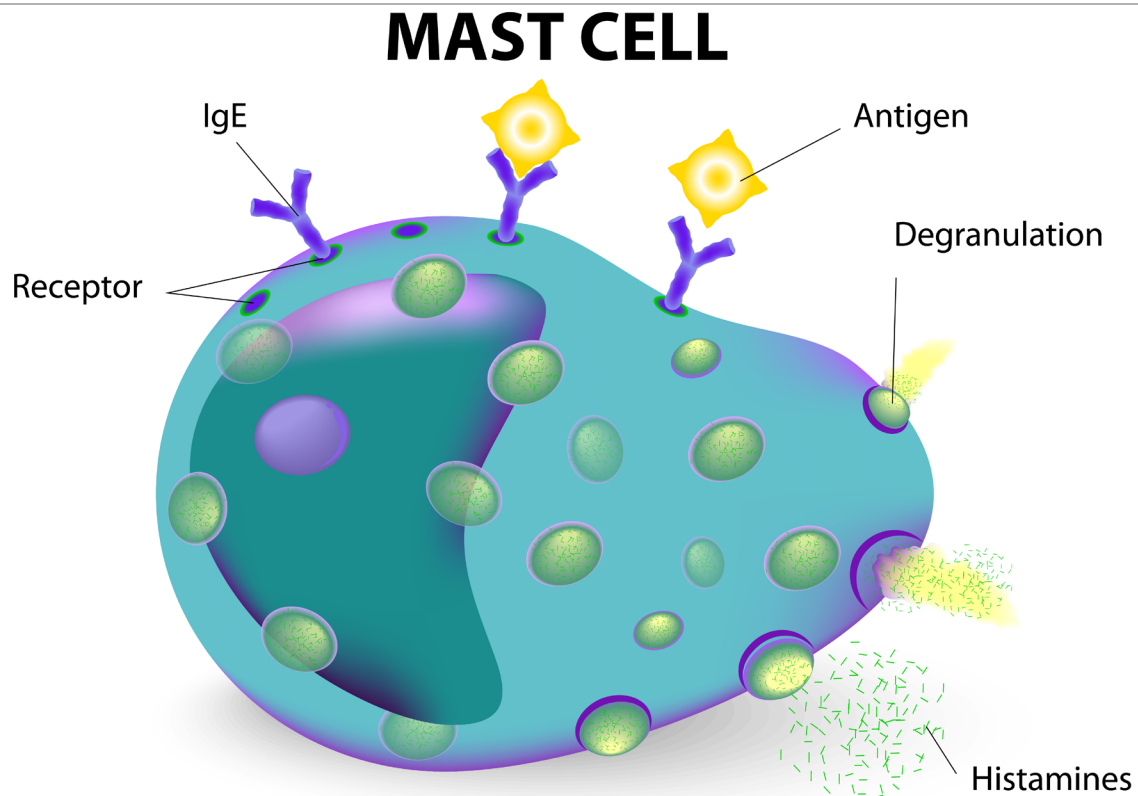
Conditions Associated with Mast Cell Activation Syndrome

Dysautonomia is a general term for a group of disorders that share a common problem - the autonomic nervous system doesn't function properly.¹ Mast cells are commonly found in the nervous system and are often paired with neurons and autonomic nerve fibers. Mast cell malfunction is related to a long list of conditions including:

- Chronic Fatigue Syndrome (CFS)
- Chronic Lyme Disease
- Postural Orthostatic Tachycardia (POTS)
- Fibromyalgia
- Ehlers-Danlos Syndrome (EDS)
- Gastrointestinal issues (irritable bowel syndrome, gut dysbiosis, food intolerances, and others)



Mast Cell Activation Triggers



What do mast cells do?

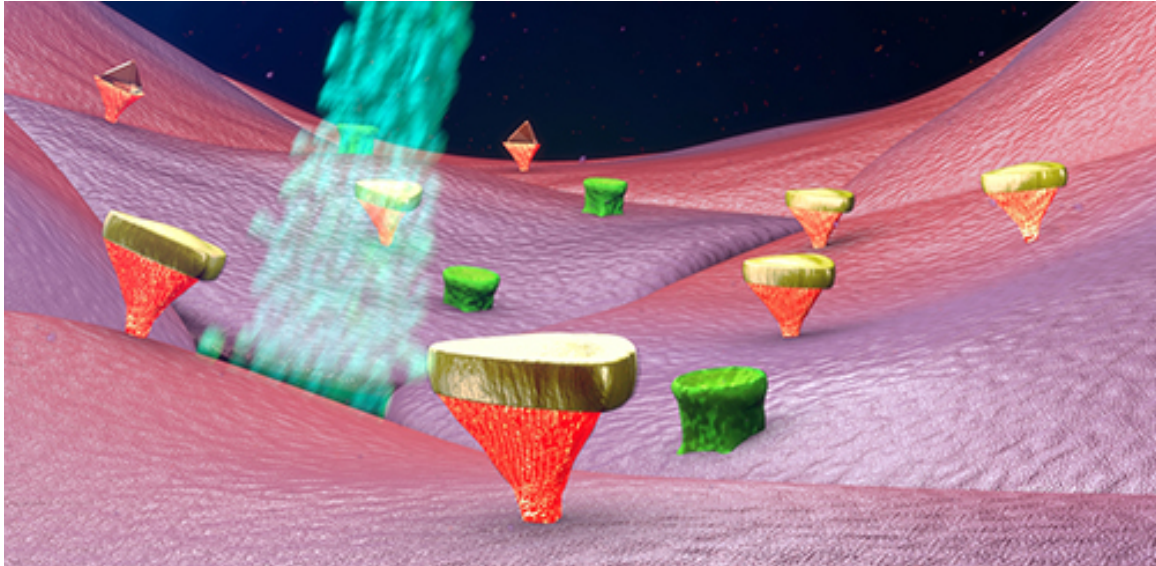
Found throughout the body, mast cells are concentrated in areas where the external environment comes in direct contact with the body. This includes the skin, lungs, mucous membranes, and the gastrointestinal tract.

They can also be found in connective tissues of various organs and in the nervous system. In many cases, mast cells are often paired with neurons and autonomic nerve fibers, where they play an important role in regulating tissue inflammation and neuroimmune interactions.

Mast cells can be triggered through both Immunoglobulin E (IgE), an antibody produced by the immune system, and non-IgE-related mechanisms. This triggering is called activation, and the release of these chemical compounds called mediators. This process is called degranulation.

Other potent inflammatory mediators include leukotrienes, prostaglandin, proteases, chemotactic factors, metabolites of arachidonic acid, and cytokines.

What Happens in Mast Cell Activation Syndrome (MCAS)?



MCAS is a condition that occurs when the mast cells are overactive or easily triggered, releasing inappropriate amounts of mediators such as histamine and leukotriene. The body ends up in a state of continual mast cell hyperactivation, causing several symptoms that can appear to be unrelated, such as bloating, skin rashes, abdominal pain, nausea, chronic aches and pains, headaches, or allergic reactions.

People with MCAS often show drug or medication-related hypersensitivity, including, but not limited to: opioids, antibiotics, NSAIDs, alcohol-containing medicines and intravenous vancomycin.

The inappropriate release of these potent mediators causes a chain reaction through the body's signaling pathways, much like an out-of-control snowball turning into an avalanche. Research has connected the hyperactive production of different mediators to a variety of symptoms.

MEDIATOR	POSSIBLE EFFECTS
Histamine	Flushing, itching, diarrhea, hypotension
Leukotrienes	Shortness of breath
Prostaglandins	Flushing, bone pain, brain fog, cramping
Tryptase	Osteoporosis, skin lesions
Interleukins	Fatigue, weight loss, enlarged lymph nodes
Heparin	Osteoporosis, problems with clotting/bleeding
Tumor Necrosis Factor- α	Fatigue, headaches, body aches

Source: <https://tmsforacure.org/symptoms/symptoms-and-triggers-of-mast-cell-activation/>

Main Types of Mast Cell-Produced Mediators and Their Associated Reactions

HISTAMINES

What Is Histamine?

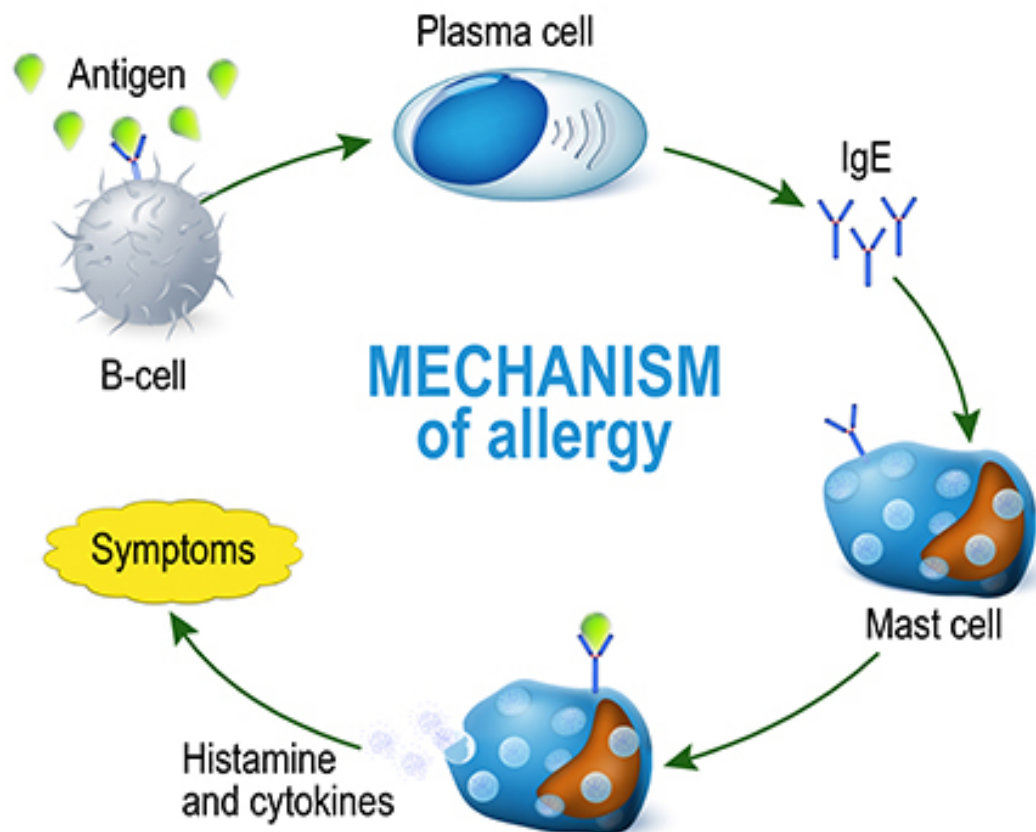
Histamine is a mediator made by mast cells. It is recognized as a central neurotransmitter that is involved in the inflammatory response and mediator of the body's itching response. It increases the permeability of the capillaries to allow white blood cells to attack and destroy pathogens in infected tissues. It is released by mast cells when allergens or antigens are linked and bound to the mast cell's IgE antibodies.

The abnormal release of histamine may be caused by either dysfunctional internal signals from defective mast cells or deficiency of degradative enzymes to eliminate histamine.

Histamines and allergic reactions

Histamine reaction process

Once your body identifies an allergen or foreign substance, your immune system is triggered. Mast cells respond and go into action, releasing histamine. Histamine increases blood flow to the affected area and creates inflammation.





Histamine and your lungs

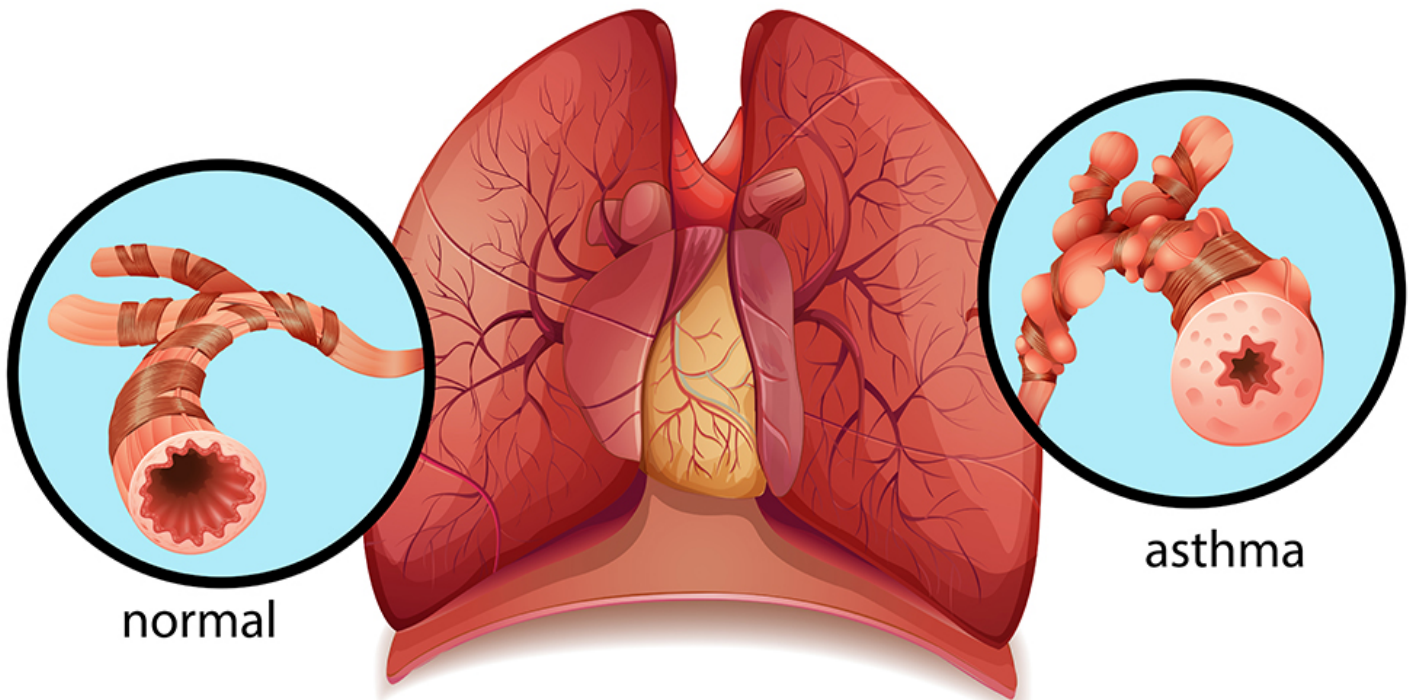
There are at least three types of histamine receptors associated with the lungs. H1-receptors control bronchoconstriction (constriction of bronchial tubes) and the lung's vascular network. H2-receptors

mediate vascular dilation and the secretion of mucus. H3-receptors regulate the release of neuropeptides from sensory nerves and allergen-induced bronchoconstriction.³

Bronchoconstriction occurs when histamines cause contractions of the smooth bronchial muscles, causing

narrowing of the bronchial tubes. This contraction and narrowing of the airways can make it hard for people to breathe, causing life-threatening health conditions such as asthma or anaphylaxis.

Asthma - Inflamed Bronchial Tube



Histamine and your gut

People with MCAS often report gastrointestinal symptoms that are often mistaken for other functional GI (gastrointestinal tract) disorders.

Mast cells within the GI mucosa are an important interface between the body's microbiome and whatever external substances are ingested.

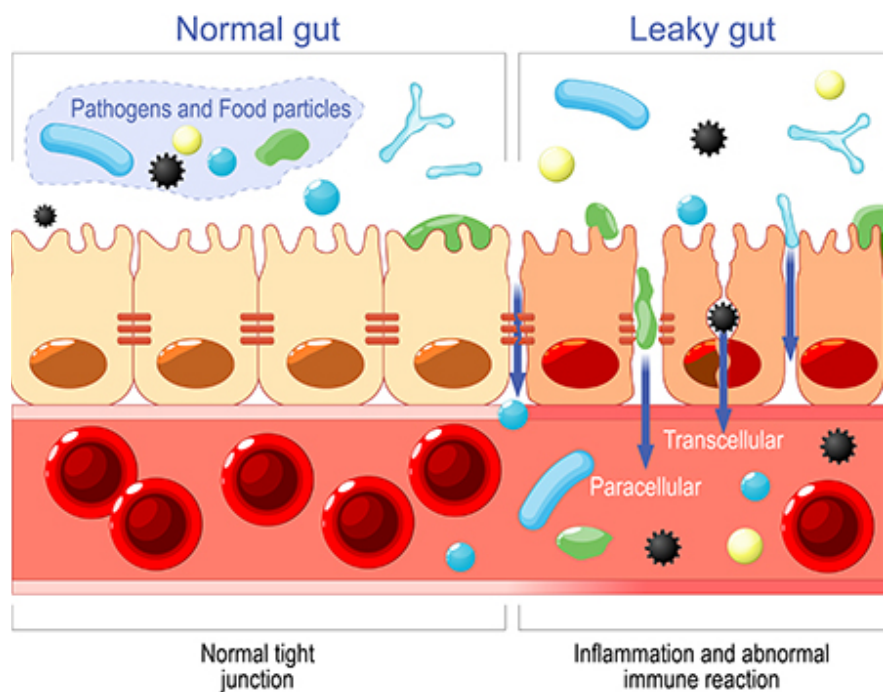
Mast cells are also present in the gut-brain-axis, which is how the gut communicates with the central nervous system.

Histamine receptors are in the gut's parietal cells, which are responsible for secreting the gastric acids needed for digestion. An increase in histamine levels results in an increase in gastric acids.

Dysbiosis (imbalance in the gut's microbial community) and small intestinal bacterial overgrowth will trigger mast cells to release mediators that activate lymphocytes, the white blood cells that help the immune system fight foreign viruses and bacteria.

Histamines and Your Brain

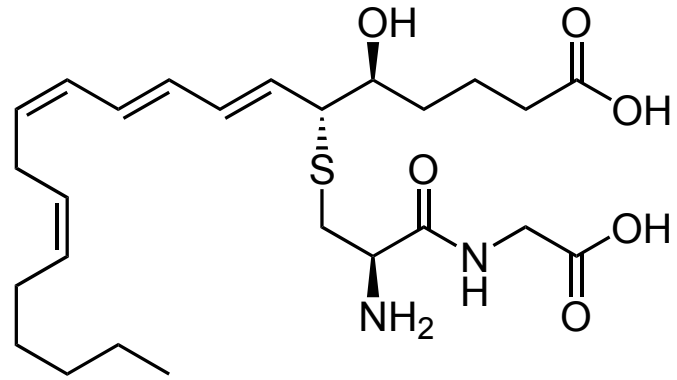
Histamine may also inhibit the production of neurotransmitters in the brain, including dopamine and serotonin. Recent scientific evidence suggests that histamine plays an important part in multiple central nervous system disorders, including migraine headaches, schizophrenia, Alzheimer's disease, Parkinson's disease, attention deficit hyperactivity disorder (ADHD), and cerebral ischemia.⁵



LEUKOTRIENES

What Are Leukotrienes?

Leukotrienes are a type of inflammatory mediator released by mast cells. There are two families of leukotrienes. The first group acts in neutrophil-related inflammatory conditions, such as cystic fibrosis, inflammatory bowel disease, and psoriasis. The second group is connected to the mast-cell induced bronchoconstriction associated with asthma.



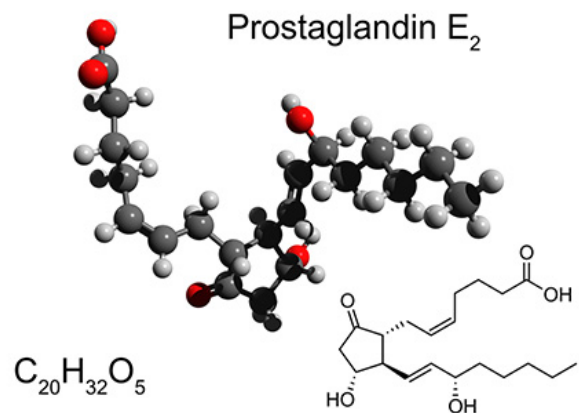
[Leukotriene 4D by Calvero](#)

PROSTAGLANDINS

What Are Prostaglandins?

Prostaglandins are a group of hormone-like substances that have essential roles in regulating defense and repair. Prostaglandins are made by platelets, mast cells, hepatocytes, smooth muscle cells, and other cells at the site where they are needed, usually tissue damage or infection.

They are involved blood clotting, blood flow, inflammation, sleep regulation, menstruation, labor induction in pregnancy, painful/heavy periods (menorrhagia) and ovulation.⁶ Furthermore, prostaglandins are strong bronchoconstrictors and are considered ten times more potent than histamine.



Diagnosis of Mast Cell Activation Syndrome



How MCAS is diagnosed

MCAS was only recognized as a condition in 1991 and given a name in 2007. Many people (including physicians) mistakenly refer to these symptoms as histamine intolerance, when MCAS is the probable cause. It is clinically difficult to diagnose for the reasons further outlined below.⁷

The International Mast Cell Disorder Working Conference established diagnostic criteria for mast cell disorders in 2010. They established three (3) required co-criterion for systemic mast cell activation:

1. Patients exhibit symptoms involving two or more organ systems in parallel.
2. Documentation that mast cell mediators are directly involved in symptoms such as elevated serum tryptase, histamine and/or prostaglandin lab tests.
3. Proven response to medications that inhibit histamine or other mediator release.

Some experts have estimated that up to 14 to 17% of the US population has MCAS. Laboratory testing of MCAS requires detecting abnormal levels of mediators, such as histamines and prostaglandins. Testing and validating MCAS can be an arduous and complex process.

Taking NSAIDs, aspirin and antihistamines can throw-off test results, resulting in false negatives. Lab samples also need to be chilled immediately to avoid deterioration. With these challenges, it is very common to get a false negative for tests.

The most important MCAS tests to consider are:⁸

- Histamine - plasma
- N-Methylhistamine 24-hour urine test. Measures levels of histamine, prostaglandins, and leukotrienes.
- Prostaglandin D2 - plasma and 24-hour urine
- Chromogranin A
- Serum Tryptase Test - measures degranulation in mast cells.
- Complete Blood Count - to rule out mastocytosis, an unrelated condition.
- Bone Marrow Biopsy

Managing Mast Cell Activation Syndrome

Common Approaches to Managing MCAS

Drugs used in treating MCAS are commonly used to treat allergic diseases and inflammation, such as steroids, non-steroidal anti-inflammatory drugs (NSAIDs), antihistamines, and immunosuppressants. Medications that stabilize mast cell include cromolyn sodium and ketotifen.

However, long-term use of these may lead to serious long-term side effects such as immune system deterioration. While immunosuppressants make the immune system less able to detect and destroy cancer cells or fight off infections, putting the whole body at risk.

Natural Remedies for Mast Cell Activation Syndrome

Diet

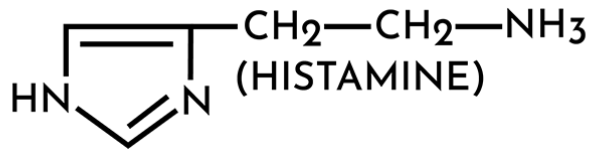
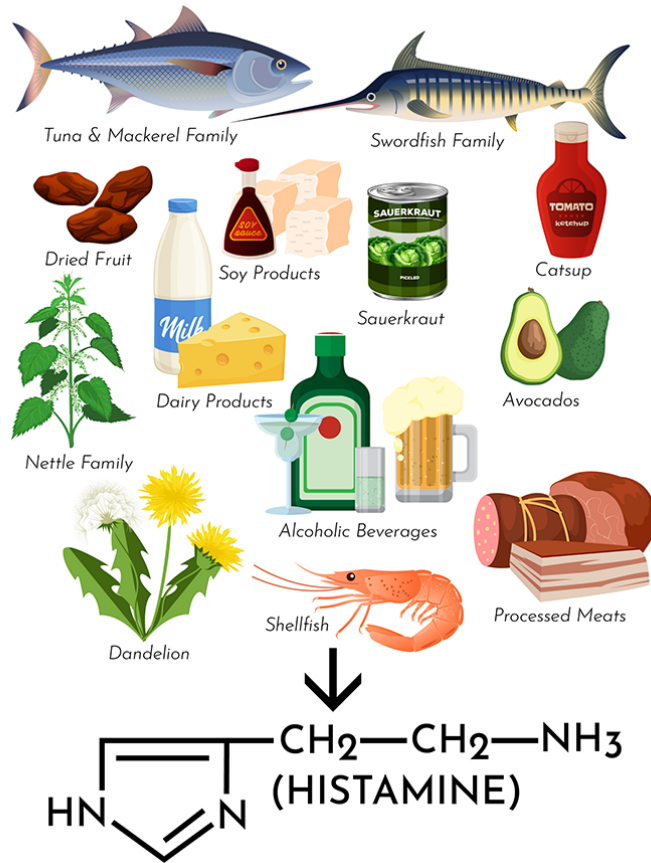
Diet is often the first step in addressing MCAS. This means eliminating foods that are naturally high in histamine-rich or induce a histamine reaction.

Foods naturally high in histamine include pickled and canned foods like sauerkraut and catsup, processed or smoked meat products, dried fruits, aged cheese, alcoholic beverages, shellfish, avocados, eggplant, and spinach.

There is no such thing as a histamine-free diet but adding low-histamine foods into your diet can help reduce symptoms.

Foods that are low in histamine include fresh meat and fish, non-citrus fruits, eggs, gluten-free grains such as quinoa and rice, dairy substitutes such as coconut and oat milks, and fresh vegetables except for those listed previously.

Foods Naturally High in Histamine

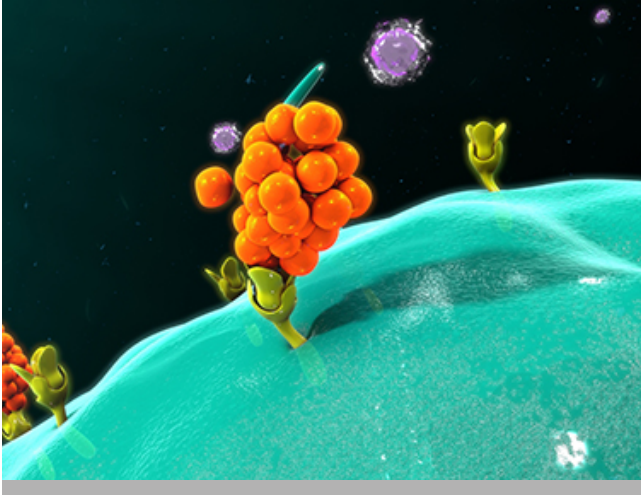


Supplements

There are several readily available natural supplements that also help with the problems surrounding MCAS. They include:

- **Curcumin** (found in turmeric) is an antihistamine that helps with stabilizing mast cells.
- **Mangosteen** (*Garcinia mangostana*) inhibits the release of histamine and prostaglandin.
- **Resveratrol** (in grapes and blueberries) suppresses inflammatory cytokines that are released by mast cells.
- **Ellagic acid** (in pomegranate and mango kernels) prevents the release of proinflammatory agents from mast cells.
- **Silibinin** (in milk thistle) prevents mast cells from releasing mediators.
- **Theanine** (found in green tea) is an amino acid that helps prevent histamine release.
- **Epigallocatechin gallate** (also found in green tea) inhibits histamine release.
- **Quercetin combined with bromelain** has antihistamine properties without causing drowsiness.
- **Fish oil** reduces inflammatory responses.
- **Palmitoylethanolamide or PEA** (in soybean lecithin, egg yolk and peanuts) is a naturally occurring endocannabinoid produced in our body. It is formed in response to inflammation and chronic pain.
- **Beta-Caryophyllene (BCP)** is a fragrant terpene oil found in many herbs and spices. It blocks mast cell release of histamine and cytokines. It is well documented in research and clinical trials for reducing or preventing inflammation, inhibiting congestion and other allergic responses.

Mast Cells and the Endocannabinoid System Connection



The Endocannabinoid System (ECS) is an endogenous system that is the master regulator for many of the body's core systems.

The endocannabinoid system (ECS) plays a critical role in our survival. This is due to its ability to maintain homeostasis (balance) of the human body, by integrating our neurologic, metabolic, endocrine, and immune system. It is present everywhere in the human body allowing it to function as a "master regulator" in the body.

As the master regulator system, the endocannabinoid system is connected to the main systems and organs through CB1 and CB2 receptors. CB2 receptors are found throughout the body and in particular the immune system, such as white blood cells, the tonsils, and the spleen. As part of the immune system, studies suggest that the mast cell CB2 receptors control mast cell activation and therefore mediator release.

As an example, Palmitoylethanolamide behaves as an endogenous agonist (a compound naturally produced by the body which binds to and activates that receptor) for the CB2 receptor on mast cells. Palmitoylethanolamide (so called ALIAmides) and its derivatives may provide anti-inflammatory therapeutic strategies specifically targeted to mast cells.

In other words, when the CB2 receptors on mast cells are activated by compounds like as Palmitoyl-ethanolamide, they can inhibit or shut down the mast cell's release of mediators (degranulation).¹⁰ Interestingly, this same study showed that Cannabidiol (CBD) is a weak agonist for the CB2 receptors and failed to inhibit mast cell degranulation

Beta-Caryophyllene and Mast Cell Activation Syndrome

How Beta-Caryophyllene interacts with Mast Cells

Beta-Caryophyllene suppresses the IgE-independent pathway by activating the CB2 receptor on the mast cell along with adiponectin pathways. With the IgE pathway blocked, the mast cell is then prevented from releasing mediators.¹¹

Beta-Caryophyllene, in contrast to CBD, is a strong agonist for CB2 receptors. Its activation shifts the immune system from inflammatory to resolution phase. In addition, BCP turns off allergic reactions even to the point of inhibiting anaphylaxis, the most serious type of reaction that can occur.



Research highlight

BCP, firstly, blocked the IgE induced allergic reaction. Secondly, BCP inhibited the mast cell degranulation and histamine release. Thirdly, BCP decreased the expression of inflammatory cytokines TNF and IL 6 in mast cells. Fourthly, BCP inhibited the expression of nuclear receptor NF- B kB that induces epigenetic inflammatory changes in mast cells. And, fifthly, BCP dose-dependently inhibited systemic and cutaneous anaphylaxis-like shock.

Source: Crosstalk between AdipoR1/AdipoR2 and Nrf2/HO-1 signal pathways activated by beta-caryophyllene suppressed pseudo-allergic reactions. (2018).

Additional information: https://www.researchgate.net/publication/330541899_b-caryophyllene_exerts_its_anti-allergic_potency_by_inhibiting_histamine_release_and_pro-inflammatory_markers_in_mast_cells

RESEARCH CITATIONS

1. Source: <https://www.medicalnewstoday.com/articles/76785>
 2. Source: tmsforacure.org/symptoms/symptoms-and-triggers-of-mast-cell-activation/
 3. Source: <https://pubmed.ncbi.nlm.nih.gov/1647126/>
 4. Source: <https://tmsforacure.org/tests/>
 5. Source: The roles of Histamine and Its Receptor Ligands in Central Nervous System disorders: An Update <https://pubmed.ncbi.nlm.nih.gov/28223162/>
 6. Source: Prostaglandins and Inflammation; <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3081099/>
 7. Source: Idiopathic mast cell activation syndrome is more often suspected than diagnosed - A prospective real-life study <https://onlinelibrary.wiley.com/doi/full/10.1111/all.15304>
 8. Source: hoffmancentre.com/tell-mast-cell-activation-syndrome
 9. Source: National Center for Health Research. Benadryl and Other Common Medications are Linked to Dementia in Men and Women. center4research.org/benadryl-and-other-common-medications-are-linked-to-dementia-in-men-and-women/
 10. Source: Mast cells express a peripheral cannabinoid receptor with differential sensitivity to anandamide and palmitoylethanolamide. [ncbi.nlm.nih.gov/pmc/articles/PMC42169/](https://pubmed.ncbi.nlm.nih.gov/pmc/articles/PMC42169/)
 11. Source: Pathak MP, Patowary P, Das A, Goyary D, Karmakar S, Bhutia YD, Roy PK, Das S, Chattopadhyay P. Crosstalk between AdipoR1/AdipoR2 and Nrf2/HO-1 signal pathways activated by beta-caryophyllene suppressed the compound 48/80 induced pseudo-allergic reactions. *Clin Exp Pharmacol Physiol.* 2021 Nov;48(11):1523-1536. doi: 10.1111/1440-1681.13555. Epub 2021 Aug 15. PMID: 34314522. Additional Research Resources
- Immunol Pract. 2014 May-Jun;2(3):252-7 e1; quiz 8. [ncbi.nlm.nih.gov/pubmed/24811013](https://pubmed.ncbi.nlm.nih.gov/pubmed/24811013)
4. Mast Cell Disease Society tmsforacure.org/overview
 5. Afrin LB, Self S, Menk J, Lazarchick J. Characterization of Mast Cell Activation Syndrome. *Am J Med Sci.* 2017 Mar;353(3):207-215. doi: 10.1016/j.amjms.2016.12.013. Epub 2016 Dec 16. PMID: 28262205; PMCID: PMC5341697. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5341697/>
 6. Triggers for MC activation include stress, food, alcohol, excipients in medications, infections, altered microbiome, and environmental stimuli including heat, chemical, and mold exposure [2, 3, 6, 18-21]. A multidisciplinary approach is optimal for diagnosis and management. Source: Mast Cell Activation Syndrome: A Primer for the Gastroenterologist
 7. Adiponectin, a Therapeutic Target for Obesity, Diabetes, and Endothelial Dysfunction *Int. J. Mol. Sci.* 2017, 18(6), 1321; <https://doi.org/10.3390/ijms18061321>

Supporting Beta-Caryophyllene Research

1. BCP activates PPAR- γ that promotes anti-inflammatory M2 macrophage and regulates fatty acid storage and glucose metabolism. Critical role of mast cells and peroxisome proliferator-activated receptor gamma (PPAR- γ) in the induction of myeloid-derived suppressor cells by marijuana cannabidiol (Note: BCPLUS does not come from marijuana) doi:10.4049/jimmunol.1401844.
2. BCP is strong, selective CB2 agonist: Mast cells express both the gene and a functional CB2R protein with negative regulatory effects on mast cell activation. Mast cells express a peripheral cannabinoid receptor [type 2] with differential sensitivity to anandamide and palmitoylethanolamide. *Proc Natl Acad Sci* 92 (1995).
3. Beta-Caryophyllene (BCP) is a natural bicyclic sesquiterpene abundantly found in essential oils from various spices, fruits and medicinal as well as ornamental plants. BCP elicits full agonist action on CB2R representing important therapeutic target in several diseases. Activation of CB2R appears devoid of psychotropic effect of cannabinoids contrary to the CB1 receptors.
4. Polypharmacological Properties and Therapeutic Potential of Beta-Caryophyllene: A Dietary Phytocannabinoid of Pharmaceutical Promise. 2016. <https://bityl.co/EJly>.

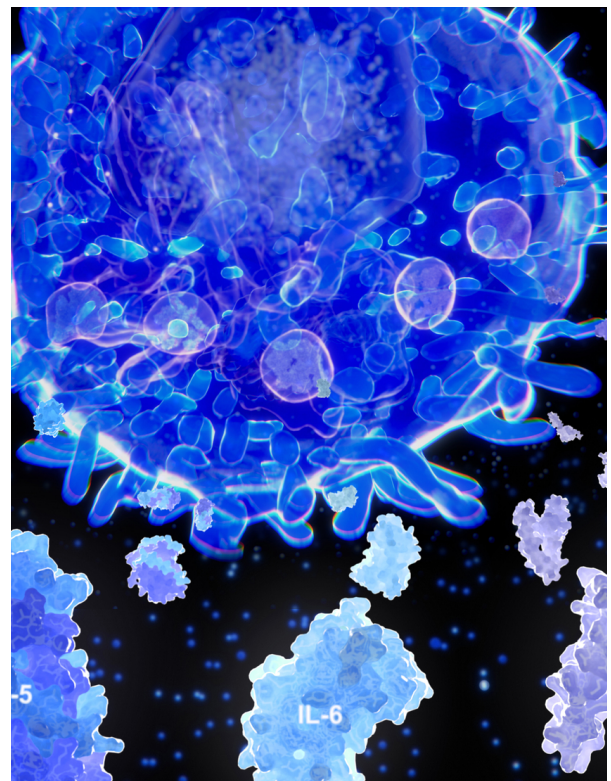
Additional Research Resources

1. Akin C, Valent P, Metcalfe DD. Mast cell activation syndrome: proposed diagnostic criteria. *J Allergy Clin Immunol.* 2010 Dec;126(6):1099-104 e4. <https://pubmed.ncbi.nlm.nih.gov/21035176/>
2. Afrin LB. Presentation, diagnosis, and management of mast cell activation syndrome. In: Murray DB, editor. *Mast cells: phenotypic features, biological functions, and role in immunity.* Hauppauge: Nova Science Publishers, Inc.; 2013. p. 155-232.
3. Akin C. Mast cell activation disorders. *J Allergy Clin*

RECOMMENDATIONS FOR USING BETA-CARYOPHYLLENE

Dosing is variable. Use liposomal BCPLUS 1 to 2mL orally twice daily to start, then adjust the dose and frequency as needed. Liposomes are ALSO well absorbed through the skin and can be applied anywhere to relieve pain, rashes or inflamed areas. Apply BCPlus to the bridge of the nose for sneezing or nasal congestion. BCPLUS Gel is also effective in helping to relieve and heal.

BCPLUS Topical Blend can also be used 5 drops to backs of the hands, around the umbilicus or the neck to help relieve or reduce systemic effects. Typically, the immune system-calming effects are experienced quickly, with continued resolution over weeks or months and may not require as high a dose but continued therapy is recommended.



Mast cell undergoing degranulation

HOW IT WORKS—Under supervised clinical use, Beta-Caryophyllene (BCP) can be used to help relieve the symptoms of mast cell activation, whether they are a result of seasonal pollen, plant irritants such as poison ivy, insect bites/stings, or food sensitivities.

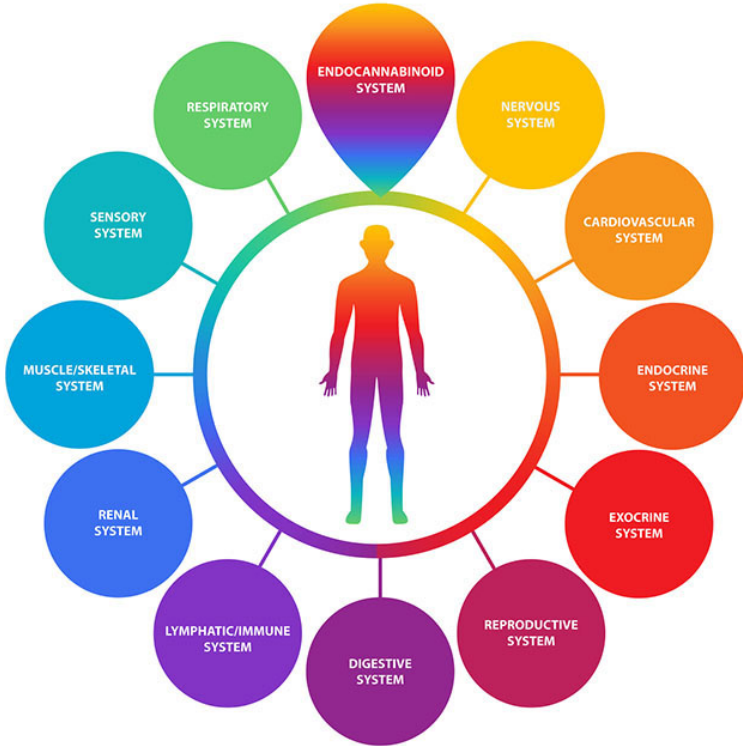
Research has shown that BCP helps to stabilize mast cells and inhibits mediator degranulation, preventing excessive releases of histamines, prostaglandins and leukocytes that trigger inflammation. BCP also helps activate adiponectin, which has enormous implications for metabolic, cardiovascular, and immunologic pathways. In MCAS, a wide range of clinical symptoms can be relieved, including cognitive, pain, skin, gastrointestinal and metabolic. Patients also reported improved energy and sleep.



IMPORTANT NOTE:

The information, including but not limited to, text, graphics, images and other materials contained in this document are for informational purposes only. It does not constitute medical advice. No material in this document is intended to be a substitute for professional medical advice, diagnosis or treatment. Always seek the advice of your physician or other qualified healthcare provider with any questions you may have regarding a medical condition or treatment and before undertaking a new health care regimen, and never disregard professional medical advice or delay in seeking it because of something you have read in this document.

Introducing the BCPlus Product Family



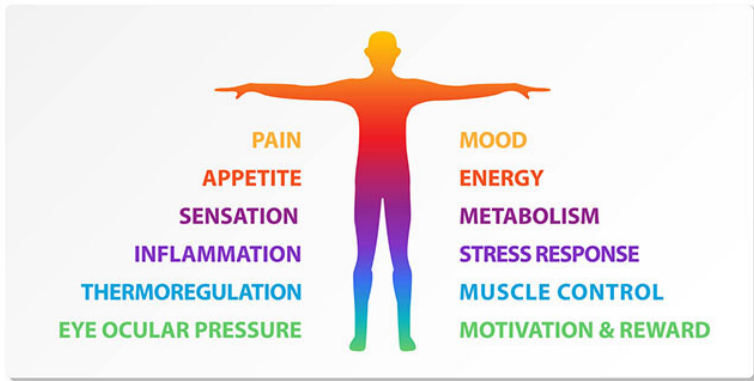
Customized Beta-Caryophyllene (BCP) products that work with the body to enhance endocannabinoid health.

Our products are physician-formulated for maximum effectiveness and potency. They contain Beta-Caryophyllene from hops + carefully selected terpenes and essential oils to maximize effectiveness and potency..

They can help support a wide range of health and wellness needs, from stress and anxiety relief, pain alleviation, inflammation reduction, healthy sleep cycles, skin conditions, digestive issues, and more.

All of our products are formulated and manufactured to strict quality standards, so you can be assured that you are getting reliable and consistent support for your body's needs.

- Physician-formulated blends for topical or oral uses
- Natural herbal food substances are FDA-approved
- Broad spectrum phytocannabinoid
- FDA accepted, low dosing, few adverse effects
- Synergistic with CBD
- Alternative to cannabis products
- Custom-blended formulations for topical or oral uses
- Contains NO THC – will not show up in drug testing



BCPLUS TOPICAL



Our topical blend is made from organically grown hops oil, distilled to a pure form of beta-caryophyllene. BCPlus Topical Tincture blocks over-reacting immune conditions and pain receptors when applied locally to joints, muscles, neck, back or the back of hands. A few drops of the oil are all that are needed for reducing pain, inflammation or swelling, and providing a sense of calmness and relaxation.

BCPLUS CRUNCHES

Our BCPlus Crunches contain all the beta-caryophyllene goodness of our oral formulation, made into tasty, crunchy little treats. Slightly sweetened with monkfruit, and enhanced with probiotics, BCPlus Crunches are low glycemic and Keto friendly. They come packaged in a small, round tin that is easy to store and transport in backpacks, bags or totes. Each crunch contains 9 mg of beta-caryophyllene. Safe for all ages.

BCPLUS LIPOSOMAL ORAL



The first liquid liposomal beta-caryophyllene product available. Liposomal formulations contain the active BCP inside very tiny, fat-like particles that are easier for the body to absorb, allowing the BCP to get to the targeted area of the body much faster. BCPlus Oral Liposomal helps block inflammatory processes and helps mitigate pain, stress disorders, diabetes, and high cholesterol.



BCPLUS TOPICAL GEL



The BCPlus Topical Gel starts with our potent beta-caryophyllene topical formulation blended into a hydrating DMAE gel base that supports skin health and healing. We added Terpeneol, an effective antioxidant, and Humulene (anti-inflammatory substance found naturally in hops flowers) to enhance absorption into the skin. Essential oils are carefully chosen to enhance and support anti-inflammatory, healing and calming properties. Our BCPlus Topical Gel is non-greasy and easy to apply.

Endocannabinoid Health For EVERYONE!

Our beta-caryophyllene blends have no psychoactive effect, so that everyone could benefit from them. They work like CBD on the body, or maybe even better.

OUR MISSION

Empowering people's health & well-being through products that support the endocannabinoid system.

At Blair Medical Group, we know that you want to be confident in the quality of the products that you use.

Our mission is to create and share natural, plant-based, non-prescription products that empower healing by balancing the Endocannabinoid System. We want people to feel better, create balance in their health, and be confident in the products they use.

This is why we have spent decades researching and developing natural, simple and effective products that help people overcome health challenges and be the best version of themselves.

We supply and support individuals, professionals and practitioners by offering premium products that are free of preservatives, toxins, non-healthy product additives. Our physician-formulated product lines and educational resources will complement most healthcare protocols.



“I had MCAS!!! I recently went back to the doctor for follow-up and he was shocked that I had not been experiencing any symptoms and my labs came back excellent. That just goes to show you how well BCPLUS works!!! Before BCP I had the feeling of ants crawling on my skin all the time. I would scratch myself raw but there was nothing there: no rash, hives, nothing. I had been to numerous doctors that treated it like it was psychological. I finally found an allergist that ran every test imaginable including a bone marrow biopsy and that is how we came up with the MCAS diagnosis.”

— L.D., Patient