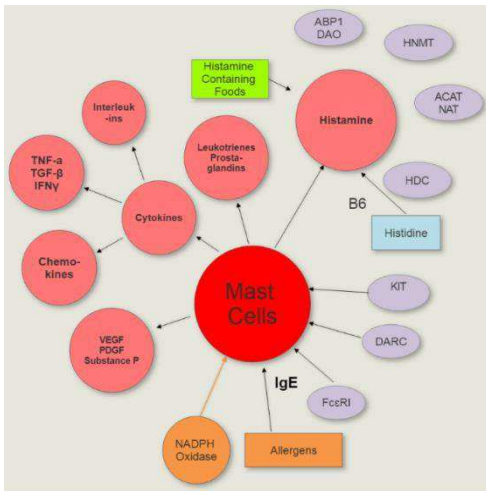


MC STABILIZER (FGN – 009)

SUPPORT FOR HEALTHY MAST CELL ACTIVITY



Mast cells are a kind of white blood cell found in nearly all human tissues. They function as a part of the immune and neuroimmune systems; mast cells are particularly concentrated in connective tissues, mucous membranes, nerve tissue, and the brain.¹ Mast cells function in wound healing, recovery of connective tissues after injury, and fighting off infections like viruses, bacteria, mold, candida, and parasites.^{2(p575)} Mast cells are involved in the formation of new blood vessels, in vasodilation, and even venom detoxification.^{1(p1)} These “master” cells even play a role in the regulation of menstruation³ and in pregnancy.⁴ When mast cell receptors are activated, they release inflammatory mediators in a process called degranulation. Mast cells contain over 200 different inflammatory molecules in cytoplasmic granules, which may be released via exocytosis into the surrounding area of the body either selectively (piecemeal degranulation) or all at once (complete degranulation).^{5(p95)}

Mast cell disorders are of two types: clonal and non-clonal. Clonal mast cell disorders are caused by genetic mutations that create increased numbers of mast cells and manifest as Mast Cell Leukemia, Mast Cell Sarcoma, Mastocytoma, Systemic Mastocytosis, Cutaneous Mastocytosis, and Monoclonal Mast Cell Activation Syndrome.^{5(p116)} These genetic mast cell disorders are indeed rare.^{5(p119)} The non-clonal mast cell disorders are acquired, like Mast Cell Activation Syndrome, often due to underlying inflammatory issues.⁶

Mast Cell Activation Syndrome is a type of Mast Cell Activation Disorder wherein the mast cells become over-reactive and over-release inflammatory mediators into the body. Mast Cell Activation Syndrome is now considered common and highly underdiagnosed.^{5(p119)} Since mast cells are present in a majority of tissues in the body and can release over 200 inflammatory mediators, symptoms of Mast Cell Activation Syndrome can vary widely and involve multiple body systems. Mast cell mediators include tryptase, histamine, interleukins, prostaglandin D2, leukotriene C4, platelet-activating factor, vascular endothelial growth factor (VEGF), platelet-derived growth factor (PDGF), substance P, stem cell factor, tumor necrosis factor-alpha (TNF-α), INF-gamma (IFNγ) chemokines, and transforming growth factor-β (TGF-β).⁷

MC Stabilizer contains the following nutritional support:

- **Berberine** Extract (Berberis aristata) root extract (standardized to 97% Berberine HCl) may support mast cell stabilizing, inhibition of mast cell degranulation, reduction of cytokines, histamine, regulation of FcεRI-mediated and MAPK signaling, reduction of mast cell-mediated allergic responses.⁸⁻¹¹
- **Boswellia** (Boswellia serrata) Gum Extract (standardized to 65% Boswellic and Organic Acids) may have anti-inflammatory, antihistamine, anti-anaphylactic, and mast cell stabilizing actions, may support inhibition of leukotrienes, TNFα and IL-1β, IL-2, IL-10, and IL-12, may downregulate pro-inflammatory cytokine TNF-alpha and decrease pro-inflammatory cytokines IL-1, IL-2, IL-4, IL-6 and IFN-gamma.¹²⁻¹⁶
- **Coleus Forskohlii Extract 10%(Forslean®)** may produce: inhibition of IgE-mediated release of histamine and peptide leukotriene, inhibition of inhibited FcεRI-induced MC degranulation, inhibition of IL-4, IL-5, and IL-17, downregulation of MMP-9 and TIMP-1 in lung tissue, and down-regulation of inflammatory responses and pro-inflammatory cytokines TNF-α, IL-1β, IL-6, and IL-8 in lung tissue.¹⁷⁻²⁰
- **OptiPea** may reduce histamine release, mast cell infiltration and activation, mast cell degranulation; down modulate mast cell activation; have anti-inflammatory effects and contribute to modulation of neuroinflammation.²¹⁻²⁷
- **Luteolin** may inhibit mast cell proliferation; suppress TNF-induced production of inflammatory mediators IL-6, IL-8 and vascular endothelial growth factor (VEGF), inhibit IgE-mediated release of histamine, leukotrienes, prostaglandin D2 and

Supplement Facts		
Serving Size 3 Capsules		
Servings Per Container 30		
	Amount Per Serving	%DV
Vitamin C (as Ascorbyl Palmitate)	300 mg	500%
Skullcap Root Extract (90% Baicalin)	150 mg	*
Boswellia (Boswellia serrata) Gum Extract	150 mg	*
Luteolin	50 mg	*
Coleus Forskohlii Extract 10%(Forslean®)	300 mg	*
OptiPea	150 mg	*
Pine Bark Extract	50 mg	*
Berberine Extract (Berberis aristata) root extract	175 mg	*

* Daily Value not established.

Other ingredients: Micro Crystalline Cellulose (USP), Vegetable Capsule (cellulose, purified water).

No artificial colors, artificial flavors, milk or milk derivatives or sodium added.

granulocyte-macrophage colony-stimulating factor; and inhibit 15-lipoxygenase-1, which may contribute to antioxidant and anti-inflammatory activity.²⁸⁻³⁸

- Vitamin C has been shown in research to inhibit the production of histamine, support copper transport necessary in the production of the Diamine Oxidase enzyme, inhibit histidine decarboxylase production of histamine, and inhibit the release of histamine and prostaglandins. Ascorbic Acid is typically derived from corn and may not be well tolerated by those with Histamine Intolerance and Mast Cell Activation. Ascorbyl Palmitate is a hypoallergenic form of Vitamin C.³⁹⁻⁴⁸
- **Pine Bark Extract** may inhibit histamine release, reduce symptoms of allergic rhinitis, inhibit IgE mediated anaphylaxis-like reactions, suppress expression of pro-inflammatory cytokines, reduce mast cell proliferation, decrease expression of mast cell mediated tryptase, reduce IL-1 β , IL-4, IL-5, IL-6, IL-13, (MMP)-9, and enhance mast cell stabilization via Heme Oxygenase-1. Pine Bark extract is supported in use for asthmatic symptoms.⁴⁹⁻⁵⁸
- **Skullcap Root Extract (90% Baicalin)** may suppress histamine release, inhibit mast cell degranulation, downregulate Th2 type airway inflammation, reduce mast cell involved neurological inflammation, reduce IgE food responses, reduce IL-1 β , IL-6, IL-8, IL-17, TNF- α , MMP-2, and VEGF levels, and regulate HPA axis function to some degree.^{36,59-65}

This product has not been designed to treat any disease and has not been approved by the FDA. Its goal is to support healthy function.

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