

Mast Cell & Allergy Support



Histamine:

Primary Mediator of Allergic Response

2



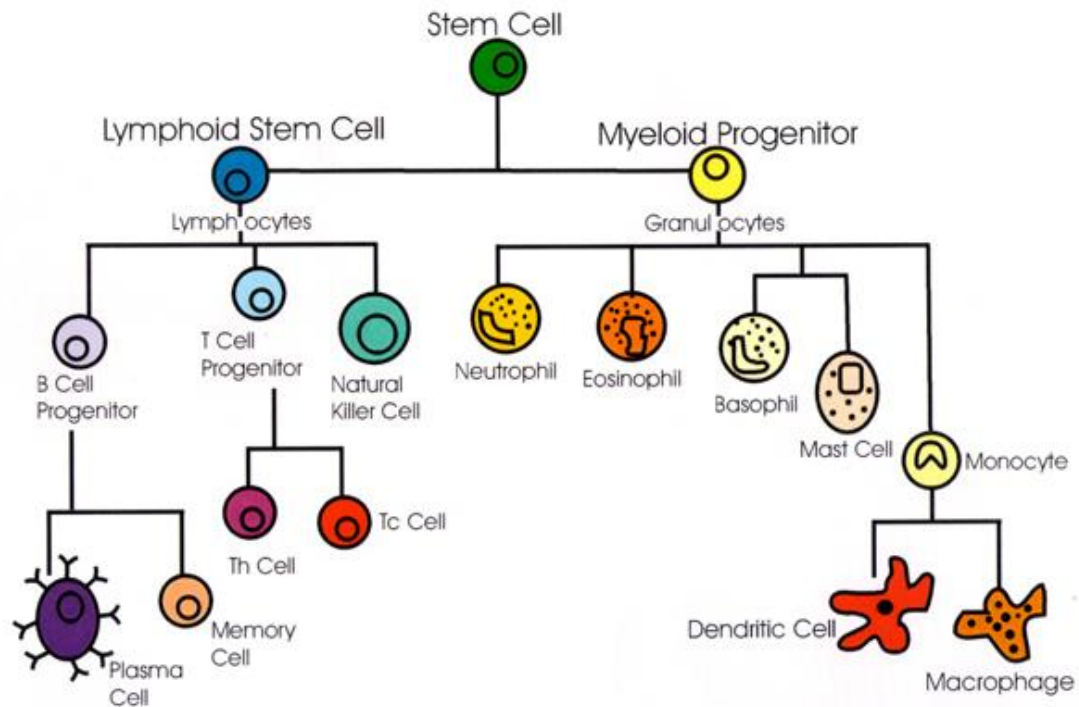
IMMUNE MESSENGER MOLECULE
RELEASED FROM MAST CELLS



NEUROTRANSMITTER

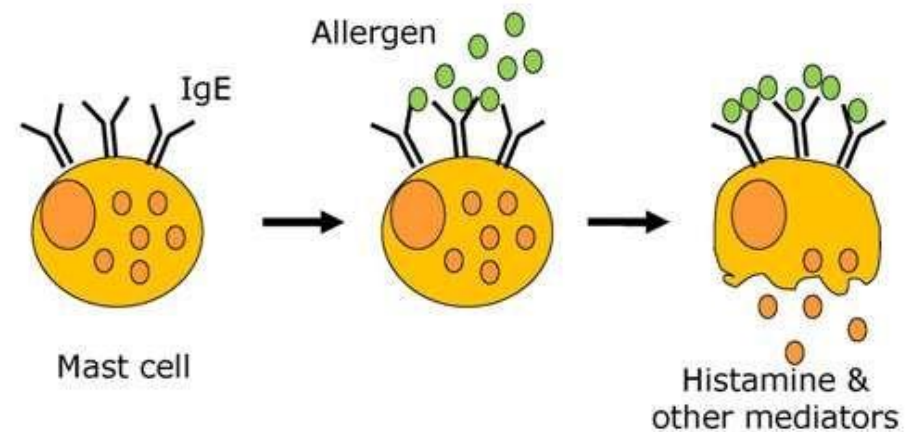
Immune Cells

Cells of the Immune System



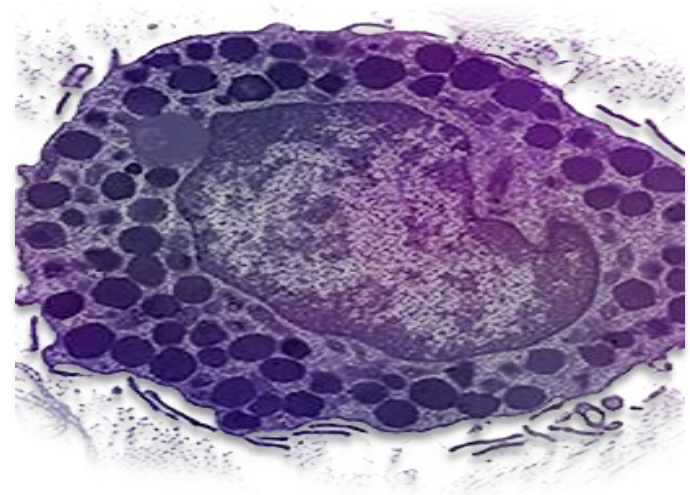
Histamine Release from Mast Cells

- ▶ Histamine Causes:
 - ▶ Blood vessel dilation
 - ▶ Bronchoconstriction
 - ▶ Increased heartbeat
 - ▶ Release of adrenaline
 - ▶ Increased capillary permeability
 - ▶ Increased gastric acid secretion
 - ▶ Pruritis



Two-Fold Mechanism of Action

1. Reduce Histamine release from Mast cells*
2. Block Histamine from binding to receptors via competitive inhibition*



Supplement Facts

Serving Size: 2 Capsules

Servings Per Container: 60

Amount Per Serving	%Daily Value**
Mast Cell Secure™ Quercetin™, Perilla Frutescens (seed) Extract, Luteolin, Fisetin	375 mg †
HistaCheck™ Black Cumin (seed) Extract, Stinging Nettle (leaf) Extract	200 mg †

** Percent Daily Values are based on a 2,000 calorie diet.

† Daily Value not established.

Other Ingredients: Organic rice hulls, hypromellose (vegetable capsule), L-leucine.

Manufactured without milk, eggs, fish, crustacean shellfish, tree nuts, peanuts, wheat, soy and gluten. Produced in a cGMP facility that may process other ingredients containing these allergens.



Suggested use: Take two capsules twice per day with or without meals.

HistaQue!®

Ingredient Blends

Ingredient Blend	Constituents	Mechanisms of Action*
Mast Cell Secure™ (Flavonoids)	<ul style="list-style-type: none">• Fisetin• Luteolin• Perilla Frutescens• Quercefit™ (Up to 20-fold more bioavailable of regular Quercetin)	<ul style="list-style-type: none">• Targeted flavonoid blend supports a decrease in mast cell release of histamine• Moderates interactions between mast cells and activated T cells.• Decreases Th2 release of allergy promoting cytokines IL-4 and IL-5
HistaCheck™	<ul style="list-style-type: none">• Stinging Nettle leaf• Black Cumin Seed Extract	<ul style="list-style-type: none">• Decreases ability of histamine to bind to its receptors by competitive inhibition• Supports management of a healthy immune response to allergens

*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

Ingredient research indicates...

▶ **Flavonoids (general)**

- ▶ Inhibit IgE mediated histamine release¹
- ▶ Decrease production of proinflammatory cytokines¹
- ▶ Down-regulate mast cell activation¹

▶ **Fisetin**

- ▶ Significantly inhibited infiltration of inflammatory cells including eosinophils, mast cells, CD4(+) T cells and CD8(+) T cells²
- ▶ Total serum immunoglobulin E (IgE) levels were markedly reduced by Fisetin²
- ▶ Reduced the production of interferon-gamma and interleukin-4 by activated CD4(+) T cells in a dose-dependent manner²
- ▶ Limits interactions between mast cells and activated T cells³

▶ **Quercefit™**

- ▶ Up to 20-fold more bioavailable of regular Quercetin⁴

Ingredient research indicates...

▶ **Perilla Frutescens**

- ▶ Suppresses IgE-mediated type I hypersensitivity reactions⁷
- ▶ Significantly inhibits IgE-mediated histamine release⁷

▶ **Nettle Extract**

- ▶ Shows in vitro inhibition of several key inflammatory events that cause the symptoms of seasonal allergies⁵
- ▶ Antagonist against the Histamine-1 (H(1)) receptor⁵
- ▶ Inhibition of mast cell tryptase⁵
- ▶ Inhibits prostaglandin formation⁵

▶ **Black Cumin Seed Extract**

- ▶ Gastroprotective: inhibit acid secretion and block histamine receptor⁶
- ▶ Anti-Inflammatory effects in asthma⁶
- ▶ Inhibits mast cell histamine release and decreases mast cell numbers⁶

- ▶ Flavonoid blend to support the body's ability to regulate healthy histamine levels*
- ▶ Herbs to supports healthy mast cell function*
- ▶ GMO-Free
- ▶ Vegetarian



References

1. Flavonoids inhibit histamine release and expression of proinflammatory cytokines in mast cells. Park HH et al. *Arch Pharm Res.* 2008 Oct;31(10):1303-11.
2. Immunosuppressive effects of Fisetin against dinitrofluorobenzene-induced atopic dermatitis-like symptoms in NC/Nga mice. Kim GD . *Food Chem Toxi Toxicol.* 2014 Apr;66:341-9.
3. The hydroxyflavone, Fisetin, suppresses mast cell activation induced by interaction with activated T cell membranes. Nagai K. et al. *British Journal of Pharmacology.* 2009.
4. Improved oral absorption of quercetin from Quercetin Phytosome®, a new delivery system based on food grade lecithin. Riva A. et al. *Int. Jr. of Drug Metabolism & Pharmacokinetics.* 2018.
5. Nettle extract (*Urtica dioica*) affects key receptors and enzymes associated with allergic rhinitis. Roschek B. et al. *Phytother. Research.* 2009 Jul;23(7):920-6.
6. Gastroprotective Effect of an Aqueous Suspension of Black Cumin *Nigella Sativa* on Necrotizing Agents-Induced Gastric Injury in Experimental Animals *Saudi J Gastroenterol* 2008 Jul;14(3):128-34. doi: 10.4103/1319-3767.41731
7. A flavanone derivative from the Asian medicinal herb (*Perilla frutescens*) potently suppresses IgE-mediated immediate hypersensitivity reactions. Kamei R. et al. *Biochem Biophys Res. Commun.* 2017 Jan 29;483(1):674-679.



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