

# HistaMend Jr.

## Immune Support

D-Hist Jr. is a great-tasting, chewable tablet that contains a targeted blend of flavonoids, antioxidants, proteolytic enzymes and botanicals designed to provide comprehensive support for children with seasonal challenges caused by common environmental allergens. D-Hist Jr. contains quercetin, a powerful flavonoid to support healthy histamine levels. It supplies bromelain to enhance the absorption of quercetin and to support mucosal tissue health and stinging nettles leaf to balance hyper-immune response. N-acetyl cysteine clears the airways by promoting normal viscosity of mucus. This unique nutritional combination safely promotes healthy nasal and sinus passages for children with elevated histamine and respiratory irritation.

## Quercetin

Quercetin is a biologically active flavonoid antioxidant that is widely distributed in plants, oak trees, onions and tea leaves. Quercetin has strong antioxidant activity and has also been shown to support immune health by mediating the release of inflammatory compounds, including leukotrienes and prostaglandins.<sup>[1,2]</sup> Quercetin is known for its ability to stabilize mast cells, which diminishes the release of histamine, the compound known to cause hypersensitivity reactions during seasonal changes.<sup>[3]</sup>

## Stinging Nettles Leaf

Urtica dioica, commonly known as stinging nettles, is a plant that has been shown to balance immune response, specifically in the airways and nasal passages.<sup>[4]</sup> Studies have shown that the extract of stinging nettles leaf balances several of inflammatory activities that affect respiratory health. In addition to controlling mast-cell degranulation, stinging nettles leaf controls prostaglandin formation and histamine action, thus contributing to a balanced inflammatory response.<sup>[5]</sup>

## Bromelain

Bromelain is a plant enzyme naturally found on the stem and fruit of the pineapple plant. Bromelain is a proteolytic enzyme that aids in the breakdown of large protein complexes, including antigenic compounds. Bromelain has been shown to enhance the absorption of quercetin.<sup>[6]</sup> and to reduce circulating allergenic protein complexes associated with hyper-immune sensitivity and seasonal discomfort.<sup>[7]</sup>

## N-Acetyl-Cysteine

N-acetyl cysteine (NAC) is an amino acid precursor to one of the most important antioxidants in the body: glutathione.<sup>[8]</sup> Both glutathione and NAC help reduce the viscosity of the mucus allowing for clearing of the airways and improved respiratory health.<sup>[9,10]</sup>

## Vitamin C

Because vitamin C cannot be synthesized by the human body, it is an essential nutrient that must be consumed in the diet. Among its numerous health-promoting properties, vitamin C supports the immune system and is also a potent antioxidant. When the body is under a significant amount of stress, vitamin C is excreted rapidly. Vitamin C has many immune boosting properties, but is distinctively beneficial for individuals with seasonal discomfort because of its ability to deactivate histamine.<sup>[11,12]</sup>

## Recommended Use:

1 tablet as needed or as recommended by your health care professional.

## References:

1. Della Loggia R, Ragazzi E, Tubaro A, et al. Anti-inflammatory activity of benzopyrones that are inhibitors of cyco- and lipo-oxygenase. Pharmacol Res Commun 1988;20:91-94.

### Clinical Applications:

- Supports Immune Balance in Hypersensitive Children
- Supports Sinus and Respiratory Health
- Promotes Normal Viscosity of Mucus
- Clears Nasal Passages



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3. Otsuka H, Inaba M, Fujikura T, Kunitomo M. Histochemical and functional characteristics of metachromatic cells in the nasal epithelium in allergic rhinitis: studies of nasal scrapings and their dispersed cells. *J Allergy Clin Immunol* 1995;96(4):528-36.
4. Mittman P. Randomized, double-blind study of freeze-dried *Urtica dioica* in the treatment of allergic rhinitis. *Planta Med* 1990; 56:44-47.
5. Obertreis, B. et al. Anti-inflammatory effect of *Urtica dioica* folia extract in comparison to caffeic malic acid. *Arzneimittelforschung* 1996; 46(1): 52-56.
6. Shoskes DA, Zeitlin SI, Shahed A, Rajfer J. Quercetin in men with category III chronic prostatitis: a preliminary prospective, double-blind, placebo-controlled trial. *Urology* 1999; 54(6): 960-3.
7. Cichoke AJ. *The Complete Book of Enzyme Therapy*. (1999). Garden City Park, NY: Avery Publishing Group.
8. Yim CY, et al. Use of N-acetyl cysteine to increase intracellular glutathione during the induction of antitumor responses by IL-2. *J Immunol* 1994; 152:5796-5805.
9. Ziment, I. Acetyl cysteine: a drug that is much more than a mucokinetic. *Biomed Pharmacother* 1988; 42(8):513-519.
10. Millar, A.B. et.al. Effect of oral N-Acetyl Cysteine on mucus clearing. *Br J Dis Chest* 1985; 79: 262-266.
11. Bland JS, Costarella L, Levin B, et al. *Clinical Nutrition: A Functional Approach*. Second Edition. (2004). Gig Harbor, WA: Institute of Functional Medicine.
12. Johnston CS. The antihistamine action of ascorbic acid. *Subcell Biochem* 1996;25:189-213.

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