GastroMend-HP™

*Supports Microbial Balance and Mucosal Health**

By David M. Brady, ND, DACBN, IFMCP, FACN and Danielle Moyer, MS, CNS, LDN

GastroMend-HP™ is a synergistic formulation of botanical extracts and nutrients designed to support a healthy upper gastrointestinal (GI) mucosal lining and to promote a healthy microbial balance in the upper GI tract, particularly in the stomach and duodenum (the first part of the small intestine).* It is delivered in a quick-release capsule formula for dissolution and action in the stomach and duodenum.* This novel combination serves to support overall GI health and gut barrier function and may be clinically beneficial to those with an imbalance in GI microflora, certain GI conditions, and those who experience common GI complaints.*

Benefits*

- Supports upper GI mucosal health
- Supports GI health
- Promotes GI microbial balance
- Promotes healthy gut barrier function

Formula Highlights

- Contains 17 mg of zinc (from zinc L-carnosine 75 mg) per serving
- Includes 500 mg of vitamin C (as ascorbic acid) per serving
- Contains 1 g of mastic gum (*Pistacia lentiscus*) per serving
- Provides 200 mg of methylmethionine sulfonium chloride (vitamin U) per serving
- Provides 150 mg of deglycyrrhizinated licorice extract (GutGard®) standardized to contain 10% total flavonoids per serving
- Formulated in a quick-release capsule for immediate action in the stomach and duodenum*
- Gluten-free, dairy-free, and soy-free
- Non-GMO

Supplement Facts

Serving Size 4 capsules
Servings Per Container 15

Amount Per Serving		% Daily Value
Vitamin C (as Ascorbic Acid)	500 mg	556%
Zinc (from Zinc L-Carnosine 75 mg)	17 mg	155%
Mastic Gum (*Pistacia lentiscus*)(sap tears)	1 g	*
Methylmethionine Sulfonium Chloride (Vitamin U)	200 mg	*
Deglycyrrhizinated Licorice Extract (GutGard®) (*Glycyrrhiza glabra*)(root) [standardized to contain 10% total flavonoids]	150 mg	*

*Daily Value not established.

Other Ingredients: Dicalcium phosphate, cellulose (capsule), vegetable stearate, tricalcium phosphate, silicon dioxide.

Zinc Carnosine (ZnC) is a chelated compound containing L-carnosine and zinc that may promote healthy upper GI barrier function through its anti-inflammatory and antioxidant properties.[1] Although zinc and L-carnosine are crucial in wound healing of the intestinal lining, it is understood that combining the two is superior to either alone, as L-carnosine may enhance the absorption of zinc and the delivery of zinc to tissues in a delayed or extended-release manner.[1]

In vitro and ex vivo studies and animal models reveal that ZnC exhibits local membrane-stabilizing and antioxidant properties once bound to damaged mucosa of the upper GI tract.[2] Patients with confirmed gastric ulcers (n = 258) consumed 150 mg per day of ZnC, a placebo, 800 mg of cetraxate hydrochloride, or its placebo for 8 weeks. After 4 weeks, the ZnC patients had superior relief of symptoms and improved gastric ulcers compared to the placebo or other mucosal protection agents.[1] Similar findings were made in clinical trials using 50, 75, or 100 mg twice daily of ZnC.[1] ZnC may also promote a healthy intestinal microbial environment, as a systematic review and meta-analysis (n = 396) concluded that ZnC (around 150 mg per day) should be considered a valuable adjunct in the management of *Helicobacter pylori*.[3]

Vitamin C (as ascorbic acid) is a crucial nutrient in GI health by helping to support the body's natural ability to repair and protect the upper gastric mucosa from injury.[4] It attenuates oxidative stress at the gastric mucosal and luminal surface by serving as an antioxidant and promoting other antioxidant defense systems, including glutathione recycling.[5] Human studies suggest that vitamin C supplementation (between 50 mg per day to 500 mg per day) may mitigate *H. pylori* colonization, potentially by increasing mucus secretion through prostaglandin E2 and attenuating urease action (an important virulence factor of *H. pylori*), as seen in vitro.[5,6] Moreover, vitamin C is a required cofactor for collagen synthesis in the structure and support of the epithelium, which may attenuate the infiltration of pathogenic bacteria into the tissues and bloodstream.[6] Suboptimal vitamin C levels have been associated with subjects with *H. pylori* infected gastritis and gastric ulcers, possibly due to decreased absorption, insufficient intake, increased metabolic demand, or rapid destruction in the GI tract.[4,7]

A randomized controlled trial (n = 312) observed that patients infected with *H. pylori* who received vitamin C supplementation with standard medical treatment experienced an increase in eradication from 48.8% to 78% at 4 weeks compared to the patients not receiving vitamin C.[4] Similar results were found in another randomized controlled trial (n = 171), where patients consuming vitamin C with standard treatments promoted the eradication rate of *H. pylori* in patients from 68% to 85% compared to patients without consuming vitamin C.[4]

Mastic Gum (*Pistacia lentiscus*) is a resinous substance from a tree native to Greece. It has been used for more than 2,500 years in the Mediterranean, where it is chewed like gum to help relieve occasional dyspepsia.[8,9] Mastic gum holds antioxidant and anti-inflammatory properties that act on intestinal epithelial cells in vitro, which may be clinically relevant to patients with inflammatory bowel disease (IBD).[8,10,11]

Patients with IBD in preclinical and clinical studies displayed decreased cytokines and inflammatory factors after receiving 2.8 g per day of mastic gum supplementation.[8,12] Mastic gum has been identified as a peroxisome proliferator-activated receptors agonist in vitro, potentially promoting healthy inflammatory responses at gene-level expression.[13] Mastic gum may also promote a healthy intestinal microbial environment, including attenuating the growth of specific fungi and gram-positive and gram-negative bacteria in vitro, such as *Staphylococcus aureus*, *Lactobacillus plantarum*, *Pseudomonas fragi*, and *Salmonella enteritidis*.[8] In vitro and clinical trials have demonstrated that mastic gum may possess antibacterial activity against *H. pylori*, which can be a primary factor for gastritis and peptic ulcer disease.[8,11] *H. pylori* is a bacterial infection estimated to affect half of the world's population.[14,15]

A small clinical study (n = 10) administered mastic gum (2.2 g per day) to patients with Crohn's disease. Compared to the baseline, the individuals had a significant decrease in disease activity and plasma levels of interleukin-6 and C-reactive protein.[8] A randomized controlled trial of 60 IBD patients administered 2.8 g per day of mastic gum or placebo for 3 months adjunct to standard medication.[9] The intervention group had a significant decrease in fibrinogen and fecal lysozyme compared to the placebo (suggesting lower disease activity) and significantly improved quality of life compared to baseline.[9] In the placebo group, there was a significant increase in fecal lactoferrin and calprotectin (indicators of inflammation).[9]

Methylmethionine Sulfonium (MMS) is a derivative of methionine found in raw cabbage. It is often referred to as *vitamin U*, although it is not technically a vitamin. It has beneficial effects in promoting a healthy upper GI mucosal lining, which may be clinically beneficial to individuals with gastric ulcers.[16] MMS displays potent antioxidant properties in animal toxicity models.[17,18] Anticonvulsant treatment with valproic acid (VPA) has been associated with gastritis and other gastric disturbances in some patients. Animal models show that MMS may mitigate VPA-induced liver, kidney, and eye damage, likely owing to its anti-inflammatory and antioxidant properties. MMS may exert similar effects on upper gastric tissue.[18-20]

Deglycrrhizinated Licorice (DGL) is a mucilaginous herb that supports upper GI mucosal health, promotes healthy microbial environments, and holds anti-inflammatory and antioxidant properties.[21-23] Being ultra-low in glycyrrhizin, DGL exerts its beneficial gastric effects without the potential side effects of full-spectrum licorice consumption.* GastroMend-HP™ provides DGL as GutGard®, a patented form of highly concentrated, flavonoid-rich licorice extract.* The strong potency of GutGard® makes it effective at one-tenth the amount of conventional DGL extracts for promoting GI health.*

Animal studies reveal that DGL increases prostaglandin synthesis, the blood supply to damaged mucosa, the number of mucus-producing cells, the amount of mucus the cells produce, and the lifespan of intestinal cells.[21,22] Furthermore, GutGard® exhibits anti-inflammatory properties by attenuating cyclooxygenase and lipooxygenase pathways.[24] Owing to these benefits, a human study administering 75 mg of GutGard® twice daily for 30 days concluded that DGL may support those with functional dyspepsia, and many human clinical studies conclude that DGL may support individuals with gastric ulcers.[21,25] In one randomized controlled trial, 33 patients with gastric ulcers were given a placebo or 760 mg of DGL three times a day for 1 month. The individuals receiving DGL experienced significant reductions in ulcer size (78%) compared to the placebo group (34%). Furthermore, 44% of the individuals receiving DGL displayed complete ulcer healing compared to 6% in the placebo group.[21] Forty patients with duodenal ulcers (lasting 4 to 12 years with more than six relapses during the previous year) were administered DGL supplementation (3 g per day of DGL for 8 weeks, or 4.5 g per day of DGL for 16 weeks). All intervention subjects had substantial improvements within 5 to 7 days, and none required surgery during the year of follow-up.[21] *Glycyrrhiza glabra* may also promote upper GI intestinal epithelial barrier function by regulating tight-junction protein expression, as seen in vitro.[26]

DGL and GutGard® have been shown to help attenuate *H. pylori* infection in animal models and human studies by supporting mucosal health, promoting antimicrobial activity, and potentially attenuating *H. pylori* gastric mucosal adhesion.[14,21,24,27] Participants diagnosed with *H. pylori* were randomly assigned to receive a placebo (n = 52) or 150 mg of GutGard® daily (n = 55) for 60 days. On day 60, more than half of the subjects (56%) receiving GutGard® had negative *H. pylori* results compared to only 4% of subjects receiving the placebo.[24]

Recommended Use: Take 4 capsules per day between meals or as directed by your health-care practitioner. (Divided dosing recommended.)

For a list of references cited in this document, please visit:

https://www.designsforhealth.com/api/library-assets/literature-reference---gastromend-hp-tech-sheet-references

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Healthcare practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage.

GutGard™

***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.**

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