

GI-Restore® LF



Comprehensive Gut-Healing Formula for Low FODMAP Diet | VA-136 / VA-936

Key Features:

GI-Restore® LF is a Low FODMAP, gut-healing formula to help relieve inflammatory conditions of the GI tract and repair the linings of the stomach, the small intestine, and the colon via multiple mechanisms:

- **Polaprezinc (Zinc L-Carnosine)** – helps to protect intercellular tight junctions and reduce gut hyperpermeability.
- **Cayenne** – appropriate dosing to promote mucus secretion in the stomach to protect and heal ulcerated lesions.
- **L-glutamine** to promote tissue regeneration in the GI tract.
- **Curcumin & Quercetin** to exert anti-histamine and anti-inflammatory effects in the gut.
- Contain **Butyrate** (SCFA) to support Colonocytes & Colon Lining Integrity. SCFAs are derived from soluble fibers via bacterial fermentation, and can become deficient over long term Low FODMAP diet.

Indications: stomatitis, GERD, gastritis, peptic ulcer, leaky gut syndrome, IBD, post-bowel surgery or post-chemotherapy recovery, and SIBO.

Description:

Polaprezinc (Zinc L-Carnosine)

Polaprezinc is a chelate compound consisting of zinc and L-carnosine. Polaprezinc works to restore intercellular tight junctions and reduce gut permeability from chronic inflammation. It also stimulates mucus protection and exerts antioxidant and anti-inflammatory actions. In Japan, polaprezinc is commonly used for the treatment of gastric ulcers.

A human clinical study showed that polaprezinc was able to counteract the small bowel damage caused by indomethacin (an NSAID). Participants treated with indomethacin saw a 3-fold increase in gut permeability. In contrast, those treated with indomethacin plus polaprezinc (**37.5 mg twice daily**) did not show any increase in small intestinal permeability.^[1]

In a randomized controlled trial involving patients with low-dose aspirin-induced small bowel injury, polaprezinc therapy (**150 mg/day**) for 4 weeks was able to significantly decrease erosions/ulcers and inflammation ($p < 0.05$), as identified by capsule endoscopy.^[2]

Quantity: 84 Vegetarian Capsules

Ingredients (per 3 capsules):

Zinc Carnosine.....	150 mg
Curcumin (C3-Complex®) (isolate from <i>Curcuma longa</i>).....	200 mg
L-Glutamine.....	600 mg
Cayenne Extract (<i>Capsicum annum</i>) (fruit) (18:1).....	20 mg (equivalent to 360 mg of dried cayenne equivalent)
Quercetin.....	300 mg
Calcium Butyrate.....	300 mg

Non-medicinal Ingredients: Silicon dioxide, L-leucine, pullulan/hypromellose (capsule)

Suggested Use: Adults - Take 1 capsule, 3 times a day, or as directed by a health care practitioner.

Hot Chili Pepper (Cayenne)

It is a common misconception that spicy foods exacerbate ulcers and other gastrointestinal symptoms. Patients with peptic ulcer disease are often told to avoid spicy foods, despite the fact that the most common causes of peptic ulcer disease (PUD) are NSAID use and *H. pylori* infections.

Research has shown that hot chili peppers can actually protect the mucosa lining of the stomach, and may prevent the gastric damage associated with NSAIDs.^[4] Capsaicin, the primary pungent ingredient of cayenne pepper, has been shown to exert a gastroprotective effect against mucosal injury in both rats and humans, confirmed by endoscopy.^[4]

Traditionally it has also been used internally for colic, flatulent dyspepsia, chronic laryngitis, and insufficiency of peripheral circulation.

The effects are dependent on the amount of chili peppers ingested. **Dosages between 15 mg to 650 mg of dried cayenne equivalent** have been clinically shown to exert capsaicin's many health benefits.^{[5],[6]} Consuming too much chili, on the other hand, may irritate the capsaicin-sensory (CS) nerve endings and cause undesired side effects, such as diarrhea and abdominal cramps.

Capsaicin's mechanism of action on the mucosa has yet to be elucidated, but it has



been suggested that capsaicin's ability to increase gastric mucosal blood flow (i.e. promote mucosa healing), promote mucus secretions, stimulate CS nerves, and bind to vanilloid receptors (ie. antiulcer, reduction of pain & inflammation)^[7] contribute to the overall protective effect on the stomach and the intestines. Furthermore, capsaicin has demonstrated a dose-dependent inhibitory effect on the growth of *H. pylori*.

^[8]

L-Glutamine

L-Glutamine is the primary source of energy for the epithelial cells, especially those of the small intestine. It also helps to build healthy muscle tissue and support immune function during periods of metabolic stress. During major medical treatments such as surgery, radiation/ chemotherapy, or protease-inhibitor treatment for HIV/AIDS,^{[9],[10]} glutamine becomes especially scarce in the body as it is used up for the healing and repair of damaged cells.

Furthermore, chemotherapy is associated with inducing significant worsening of intestinal absorption and intestinal permeability,^[11] resulting in subsequent intestinal mucosal damage. A clinical trial has shown that oral glutamine supplementation attenuates intestinal permeability in patients with esophageal cancer during chemotherapy.^[12]

Glutamine can also increase the ability of the gastrointestinal tract to absorb nutrients, which is beneficial for convalescing patients, whose bodies need the nutrients for repair and recovery, and those with short bowel syndrome^[13] and Crohn's disease.

Curcumin

Curcumin, a polyphenol derived from the herbal remedy and dietary spice turmeric, possesses strong anti-inflammatory, anticancer, and antioxidant activities.

Curcumin has been shown to improve intestinal barrier function via modulation of inflammatory cytokines and organization of tight junctions.^[14]

Quercetin

Quercetin is shown to inhibit antigen-induced histamine release,^[15] and in turn help regulate stomach acid secretion. It also has an immuno-modulating effect on dendritic cell function, making quercetin an invaluable ingredient in inflammatory conditions of the bowel.

For Education Purpose Only: The entire contents are not intended to be a substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of your physician or other qualified health provider with any questions you may have regarding a medical condition. Never disregard professional medical advice or delay in seeking it because of something you have read in this presentation. All statements in this article have not been evaluated by the Food and Drug Administration and are not intended to be used to diagnose, treat, or prevent any diseases.

Reference:

1. Mahmood A, FitzGerald AJ, Marchbank T, Ntatsaki E, Murray D, Ghosh S, Playford RJ. Zinc carnosine a health food supplement that stabilises small bowel integrity and stimulates gut repair processes. *Gut* 2007. 56: 168-175.
2. Watari I, Oka S, Tanaka S, Aoyama T, Imagawa H, Shishido T, Yoshida S, Chayama K. Effectiveness of polaprezinc for lowdose-aspirin-induced small bowel mucosal injuries as evaluated by capsule endoscopy: a pilot randomized controlled study. *BMC Gastroent* 2013. 13:108.
3. Kang JY, Teng CH, Wee A, Chen FC. Effect of capsaicin and chilli on ethanol induced gastric mucosal injury in the rat. *Gut* (1995). 36:664-69.
4. Yeoh KG, Kang JY, Yap I, Guan R, Tan CC, Wee A, Teng CH. Chili protects against aspirin-induced gastroduodenal mucosal injury in humans. *Digestive Diseases and Sciences* (1995). 40(3): 580-583.
5. Bradley PR, editor. *British Herbal Compendium: A Handbook of Scientific Information on Widely Used Plant Drugs, Volume 2*. Bournemouth (GB): British Herbal Medicine Association; 2006.
6. Hoffman D. *Medical Herbalism: The Science and Practice of Herbal Medicine*. Rochester (VT): Healing Arts Press; 2003.
7. Szallasi A, Blumberg PM. 1999. Vanilloid (capsaicin) receptors and mechanisms. *Pharmacol Rev* 51: 159-221.
8. Jones NL, Shabib S, Sherman PM. Capsaicin as an inhibitor of the growth of the gastric pathogen *Helicobacter pylori*. *FEMS Microbiology Letters* (1997). 146:223-227.
9. Noyer CM, Simon D, Borczuk A, Brandt LJ, Lee MJ, Nehra V. A double-blind placebo-controlled pilot study of glutamine therapy for abnormal intestinal permeability in patients with AIDS. *American Journal of Gastroenterology*. 1998. 93 (6): 972-975.
10. Shabert JK, Winslow C, Lacey JM, Wilmore DW. Glutamine antioxidant supplementation increases body cell mass in AIDS patients with weight loss: a randomized, double-blind controlled trial. *Nutrition*. 1999. 15 (11-12): 860-864.
11. Daniele B, Perrone F, Gallo C, Pignata S, De Martino S, De Vivo R, Barletta E, Tambaro R, Abbiati R and D'Agostino L. Oral glutamine in the prevention of fluorouracil induced intestinal toxicity: a double-blind, placebo controlled, randomized trial. *Gut*. 2001. 48:28-33.
12. Yoshida S, Matsui M, Shirouzu Y, Fujita H, Yamana H and Shirouzu K. Effects of Glutamine Supplementation and Radiochemotherapy on Systemic Immune and Gut Barrier Function in Patients with Advanced Esophageal Cancer. *Annals of Surgery*. 1998. 227 (4): 485-491.
13. Scolapio JS, McGreevy K, Tennyson GS, Burnett OL. Effect of glutamine in short-bowel syndrome. *Clinical Nutrition*. 2001. 20(4): 319-323.
14. Wang J, Ghosh SS, Ghosh S. Curcumin improves intestinal barrier function: modulation of intracellular signaling and organization of tight junctions. *Am J Physiol Cell Physiol* (2017).
15. Middleton C Jr, Drzewiecki G, Krishnarao D. Quercetin: an inhibitor of antigen-induced human basophil histamine release. *J Immunol* 1981. 127: 546.

Caution:

Consult a health care practitioner prior to use if you are pregnant or breastfeeding; if you are taking antiplatelet medication or blood thinners; if you have gallstones or a bile duct obstruction; if you have stomach ulcers or excess stomach acid. Consult a health care practitioner if symptoms persist or worsen. Zinc supplementation can cause a copper deficiency.