



BETAININE HCL



For relief of occasional **HEARTBURN & INDIGESTION***

Featuring **Mucosave®**

Some might say digestion starts with the first bite of food; however, 30-50% of acid production can be attributed to sensory stimuli alone.¹ This first step of digestion, also known as the cephalic stage, includes visualization, smell and eventually tasting. Studies show just the sight of food or smell (or a combination of both) increases gastric acid secretion.² The cephalic phase is mediated through the vagus nerve and effects the parasympathetic neurons in the stomach, therefore stimulating acid secretion.³

SUPPLEMENT FACTS

Betaine HCl	1300 mg
Acid Stable Protease	50 SAPU
Mucosave®FG	50 mg

OTHER INGREDIENTS:

100% Vegetarian capsule (cellulose, water), rice concentrate

CONTAINS NO:

Gluten, milk, casein, soy, egg, artificial colors or flavor

RECOMMENDED DOSAGE:

Take 1-2 capsules three times daily with meals, or as directed by your healthcare professional. Consult a physician prior to use if pregnant or nursing.

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Once food is consumed, it is broken down through the activation of critical enzymes: amylase, lipase and kallikrein — and a group of protease enzymes responsible for the breakdown of protein. Through swallowing and automatic muscle contraction, food particles travel down through the esophagus and reach a muscular ring known as the lower esophageal sphincter. When relaxed, food passes into the stomach; when closed, this sphincter prevents food from moving out of the stomach back into the esophagus.

Indigestion can affect the majority of the population at some point in their life. Over 20% of the population experiences indigestion or heartburn at least once a week.⁴ Traditional therapies can provide relief but can lead to insufficient levels of hydrochloric acid and critical enzymes. Long term, this can increase vulnerability to the growth of unwanted bacteria such as *Helicobacter pylori*, leading to poor protein digestion and decreased absorption of many necessary vitamins and minerals.⁵

HYDROCHLORIC ACID

Hydrochloric acid (HCl) plays an important role in overall health. It is essential for the absorption of minerals such as potassium, iron, and calcium and is responsible for triggering several different intestinal hormones and enzymes. The hormone gastrin within the stomach produces gastric acid, also known as hydrochloric acid. Once food arrives in the stomach, gastric glands are stimulated to produce HCl. The exact amount is based on the amount of protein content in the food. Once the pH of the stomach returns to normal, HCl production slows down. This negative feedback relies on food timing and the pH of the stomach. Stomach acid is a crucial component for overall healthy digestion and the proper utilization of nutrients.

**OUR
QUALITY**



GLUTEN FREE



DAIRY FREE



SOY FREE



NO FILLERS

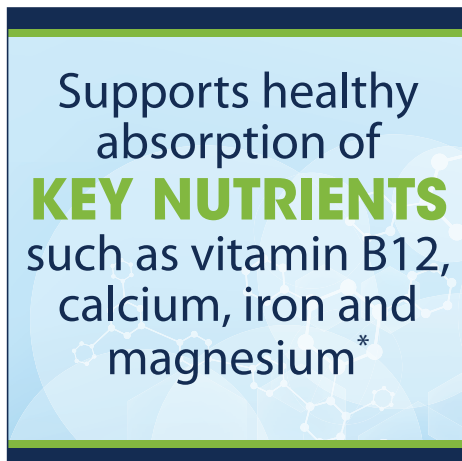
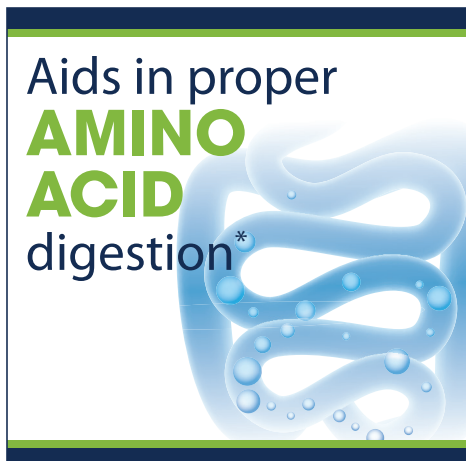


VEGAN



NON
GMO

3 BENEFITS IN 1



PEPSIN

Pepsin is a digestive enzyme that breaks down and digests proteins found in certain foods such as eggs, meat and dairy products. When food is ingested, hydrochloric acid and the proenzyme pepsin, pepsinogen, are released by chief gastric cells found within the stomach lining. Hydrochloric acid is needed to convert pepsinogen to become the active enzyme pepsin; it also helps maintain a low pH within the stomach that is required for pepsin activity. This enzyme is responsible for breaking down these dietary proteins into smaller peptides to be correctly absorbed within the small intestine.

Hydrochloric acid and enzymes including pepsin must be present to unbind vitamin B-12 from protein containing foods.^{6,7}

MUCOSAVE FG

MucoSave is made up of two herbal extracts containing polysaccharides of prickly pear cladodes (*Opuntia cus indica* (L.)) and biophenols of olive leaves (*Olea europaea* (L.)). This combination has been used for centuries due to their wound-healing properties. MucoSave FG has been

shown recently to have protective effects on the stomach lining. These benefits translated into reducing unwanted gastrointestinal symptoms such as indigestion, gas and bloating*.

Betaine HCl contains no fillers or additives, and each capsule includes Betaine HCl derived from vegetables, Acid-Active Protease Blend and MucosaveFG.

BETAINE HCl ACHIEVING OPTIMAL HEALTH

Gastric acid secretion decreases naturally with age. Hydrochloric acid protects the body against pathogens, supports proper digestion and assimilation of key nutrients. Traditional methods which neutralize gastric acid or inhibit acid secretion can interfere with proper digestion and possibly lead to malabsorption.^{8*} A lack of hydrochloric acid can also disrupt healthy microflora balance and lead to a more acidic environment. Enzyme Science's Betaine HCl has been formulated with a gentle potency of hydrochloric acid, protein-digestive enzymes, and soothing herbs for an overall healthy digestive system.

REFERENCES

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- ⁴ El-Serag HB, Sweet S, Winchester CC, Dent J. Update on the epidemiology of gastroesophageal reflux disease: a systematic review. *Gut*. 2014;63(6):871-880.
- ⁵ Moon A, Solomon A, Beneck D, Cunningham-Rundles S. Positive association between *Helicobacter pylori* and gastroesophageal reflux disease in children. *J Pediatr Gastroenterol Nutr*. 2009 Sep;49(3):283-8.
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- ⁷ Termanini B, Gibril F, Sutliff VE, Yu F, Venzon DJ, Jensen RT. Effect of long-term gastric acid suppressive therapy on serum vitamin B12 levels in patients with Zollinger-Ellison syndrome. *Am J Med*. 1998 May;104(5):422-30.
- ⁸ Smith JL. The role of gastric acid in preventing foodborne disease and how bacteria overcome acid conditions. *J Food Prot*. 2003 Jul;66(7):1292-303.

* 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.