



# HCL BREAKTHROUGH

Digestive support formula featuring betaine HCl, digestive enzymes and trace minerals designed to support healthy stomach acidity, macronutrient digestion and absorption, and micronutrient repletion\*



## FEATURES

- ✓ Hydrochloric acid to help activate zymogens (digestive enzyme precursors) and inhibit bacterial overgrowth by keeping gastric pH low\*
- ✓ Betaine, also known as trimethylglycine, to enhance digestive enzyme activity and repair villi within the small intestine, where many endogenous enzymes are located\*
- ✓ Comprehensive blend of plant-based digestive enzymes including protease, amylase and lipase\*
- ✓ Proprietary, full-spectrum trace mineral complex to provide essential digestive enzyme cofactors\*
- ✓ Unlike most HCl products, HCL Breakthrough is free of pepsin (derived from porcine gastric mucosa) and pancreatin (derived from porcine pancreas)
- ✓ Fast-acting formula starts working within just 30 minutes
- ✓ Gluten-free, vegan, soy-free formula

## BENEFITS

- ✓ Provides support for occasional heartburn and symptoms of acid reflux\*
- ✓ Helps reduce occasional dyspepsia and post-meal fullness/discomfort\*
- ✓ Helps support balanced microbiome by maintaining an acidic environment and discouraging uncontrolled intraluminal fermentation\*
- ✓ Promotes more complete digestion and assimilation of proteins, carbohydrates and fats\*
- ✓ Cellulase helps digest fibrous foods that can be challenging to breakdown, helping to reduce occasional gas and bloating\*
- ✓ Trace mineral complex helps replenish micronutrients that may be deficient in malabsorption\*

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

## Supplement Facts

Serving Size: 1 Capsule  
Servings Per Container: 90

	Amount Per Serving	%DV
Betaine HCL	500 mg	*
Enzyme Blend	21.5 mg	*
Protease 3.0	25 SAPU	*
Protease 4.5	2,500 HUT	*
Amylase	625 SKB	*
Lipase	750 FIP	*
Cellulase	750 CU	*
Trace Mineral	5 mg	*

\*Daily Value not established

**OTHER INGREDIENTS:** RICE EXTRACT, CAPSULE (VEGETABLE CELLULOSE AND WATER)

60ct



**Directions:** Take 1-3 capsules with each meal, or within 30 minutes of eating a meal. Store in a cool/dry location.

**Form:** Veg Caps

**Available Sizes:** 90 ct

**Item Code:** 912

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## CLINICAL DISCUSSION

Proper digestion is necessary not just for a healthy GI but for healthy function of every other biological system. Compromised digestion can result in autoimmunity, inflammatory conditions, cognitive issues, mood disorders, cardiovascular disease, and endocrine imbalance. For this reason, addressing impaired digestion is an essential part of restoring health.

One of the first and most critical steps to healthy digestion is the release of hydrochloric acid by parietal cells within glands embedded in the gastric mucosa.<sup>1</sup> Intraluminal HCl converts zymogens into active digestive enzymes, enabling proper breakdown of food. It also aids in mineral absorption and control of harmful bacteria.<sup>1</sup> HCl secretion is regulated via a complex process involving the vagus nerve and numerous hormones, including gastrin and secretin.<sup>1</sup>

Several factors can lead to impaired HCl production, a condition called hypochlorhydria. The biggest culprits are advancing age, high stress levels, alcohol consumption, smoking, poor nutritional status (often related to consuming a standard American diet), and history of antacid use.<sup>2</sup> Decreased HCl production can lead to impaired digestive enzyme activation, as well as proliferation of harmful microbes like *H. pylori*.

In addition to HCl, our bodies require digestive enzymes in order to properly breakdown the foods we eat. Amylase plays an important role in cleavage of starch, converting sugar subunits into fuel for energy production. Low amylase is associated with diarrhea (due to unabsorbed starch remnants in the GI tract) and disordered carbohydrate metabolism and handling.<sup>3,4</sup> Cellulose helps break down fibrous plant matter that can be challenging to digest and contribute to gas, bloating and discomfort.

Proteases are essential for digesting proteins and polypeptides into amino acids that can then be properly absorbed. Incomplete amino acid assimilation has far-reaching deleterious effects, since these building blocks are required to produce every protein and enzyme in the body. Lipase is an important enzyme responsible for digesting dietary fats; reduced lipase activity can impair absorption of fat-soluble vitamins like vitamin D, potentially leading to deficiency.<sup>5</sup>

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## REFERENCES

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2. BanooH et al. Implications of Low Stomach Acid: An Update. *RAMA Univ J. Med Sci* 2016;2(2): 16-26.
3. Peyrottes Gachons C, Breslin PA. Salivary Amylase: Digestion and Metabolic Syndrome. *CurrDiab Rep.* 2016 Oct;16(10):102.
4. Feldman M, Friedman LS, Brandt LJ. (2010). *Sleisenger and Fordtran's gastrointestinal and liver disease: Pathophysiology/ diagnosis/management.* Saunders/Elsevier.
5. Min M, Patel B, Han S, Bocelli L, Kheder J, Vaze A, Wassef W. Exocrine Pancreatic Insufficiency and Malnutrition in Chronic Pancreatitis: Identification, Treatment, and Consequences. *Pancreas.* 2018 Sep;47(8):1015-1018.