

# Betaine HCl



*Betaine hydrochloride with pepsin for optimal digestive support\**

By David M. Brady, ND, DC, CCN, DACBN & Amy Berger, MS, CNS

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Designs for Health's Betaine HCl provides 750 mg betaine hydrochloride along with pepsin, one of the body's key protein digesting enzymes. This product is ideal for individuals with low stomach acid who may benefit from support for digestive function.<sup>1,2</sup> It is delivered in capsule form to ensure delivery of the ingredients to the stomach where they are needed to initiate digestion.

**Betaine HCl is an excellent source of hydrochloric acid (HCl), which is produced by the parietal cells of the stomach.<sup>3</sup> Hydrochloric acid is required for:**

- The breakdown of protein in the stomach for further digestion in the small intestine.
- The conversion of the proenzyme pepsinogen, secreted from the gastric chief cells, into its active form pepsin.<sup>3</sup>
- The proper absorption of nutrients, including vitamin B12 and minerals such as calcium, magnesium, zinc, iron, and selenium.<sup>4,5</sup>
- Protection from pathogens, as the acid provides a protective barrier against bacterial and yeast overgrowth.

Hypochlorhydria, the insufficient production of hydrochloric acid, is a widespread issue that is often overlooked, particularly because the symptoms are frequently misunderstood to result from excessive rather than inadequate stomach acid. This may lead patients to be placed on antacid medications which paradoxically may cause worsened symptoms as a result of further impairment of adequate digestive secretions. Additionally, HCl is a key player in the body's defense against foodborne illness. Insufficient production of HCl may result in inadequate degradation of harmful or opportunistic organisms which may contribute to bacterial overgrowth or dysbiosis, inflammation and immune overactivation, as well as increased risk for pneumonia and Clostridium difficile (C. diff) infection.<sup>6-9</sup> Additionally, insufficient HCl may lead to poor nutrient status, which explains observed deficiencies in iron, magnesium, B12, and calcium, along with increased risk for bone fractures, kidney disease, pneumonia and C. diff infection among those with long-term, high-dose use of proton pump inhibitors.<sup>10-12</sup>

Pepsin, the other ingredient in this product, is an endopeptidase that breaks down proteins into smaller peptides, facilitating the activity of protein-digesting enzymes in the small intestine. Pepsin is first secreted as pepsinogen and is converted to its active form in the acidic environment of the stomach. In hypochlorhydria, pepsin activity may be compromised, potentially resulting in absorption of inappropriately large peptides that may trigger a systemic immune response, possibly leading to food sensitivities.

As a result of this physiological dysfunction, the underproduction of stomach acid can be associated with a variety of chronic conditions, such as iron deficiency anemia, chronic atrophic gastritis, food sensitivities, rheumatoid arthritis and other autoimmune diseases such as pernicious anemia, diabetes, osteoporosis, gallstones, asthma, hypothyroidism, and certain skin disorders such as eczema, psoriasis and vitiligo.<sup>13</sup> Pepsin output declines naturally with age while stomach acid production is compromised by several common issues among older individuals, so this population may particularly benefit from Betaine HCl.<sup>14,15</sup>

## Supplement Facts

Serving Size 1 capsule

Amount Per Serving	% Daily Value
Betaine Hydrochloride (HCl)	750 mg *
Pepsin	33 mg (500,000 FCC U) *

\*Daily Value not established.

**Other Ingredients:** Gelatin (capsule), microcrystalline cellulose, vegetable stearate, silicon dioxide.

### Benefits of Betaine HCl may include\*:

- Digestive support for individuals with low stomach acid
- Potential decrease in certain food sensitivities through improved digestion of proteins
- May help prevent overgrowth of opportunistic GI microbes

**Symptoms of low stomach acid include<sup>16</sup>:**

- Bloating and gas, particularly after eating
- Feeling full after eating only a small quantity of food
- Indigestion
- Heartburn/reflux
- Food sensitivities/intolerances
- Bowel irregularities such as diarrhea and constipation
- Epigastric and abdominal pain
- Unintentional weight loss
- Nausea/vomiting and dysphagia

**Recommended Use:**

- Take one capsule per day before a meal, or as directed by your health care practitioner.
- This product is not recommended for anyone diagnosed with ulcers, gastritis, duodenitis, gastric cancer or those with an overproduction of acid.

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

[http://catalog.designsforhealth.com/assets/itemresources/Betaine\\_HCl\\_References.pdf](http://catalog.designsforhealth.com/assets/itemresources/Betaine_HCl_References.pdf)

\*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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