

Formulated to enhance the digestion of problematic proteins

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**AllerGzyme™** is a synergistic combination of well-researched proteases with optimized activity to break down hard-to-digest proteins. It is designed to minimize the adverse effects from occasional consumption of gluten, dairy, soy, egg, whey, casein, almond, peanut, rice, pea and fish proteins in individuals who are sensitive to them.

It features Glutalytic®, a specialized mix of proteases, along with additional protease (from *Bacillus subtilis*) and bromelain, which expands the proteolytic effectiveness of these microbial-derived enzymes and contributes additional anti-inflammatory actions.

This product is not intended for those with celiac disease, anaphylactic reactions to foods, or with severe allergies to gluten or the other aforementioned foods, but rather, for individuals with milder sensitivities and intolerances, who experience unpleasant symptoms after indulging in foods that contain gluten or other hard-to-digest proteins, including those with elevated anti-gliadin IgA on GI testing, such as the *GI-MAP* from Diagnostic Solutions Labs.

In an ideal world, we would completely abstain from foods that do not agree with us. But this is a tall order, and even under the best circumstances, traveling, dining out, and the inevitable cross-contamination of foods mean that even when individuals with food sensitivities are especially vigilant about avoiding offending foods, they may still be exposed to problematic compounds. AllerGzyme™ is an ideal product to use preventively when the provenance of a meal is unknown, and also for when an occasional “cheat” or “treat” meal is planned.

## Glutalytic®

This compound is a blend of four proteolytic enzymes: aspergillopepsin (from *Aspergillus niger*), alkaline protease (from *Bacillus subtilis*), peptidase (from *Aspergillus oryzae*), and DPPIV. It achieves nearly complete degradation of gluten in the stomach and upper GI tract, thus potentially reducing the symptoms associated with gluten exposure in sensitive individuals. Estimates suggest non-celiac gluten sensitivity may affect as much as 6% of the U.S. population (18 million people), with individuals spending thousands of dollars on efforts to treat their array of symptoms piecemeal due to being misdiagnosed or undiagnosed.

Total avoidance of gluten may be unrealistic for these individuals, who do not experience the debilitating symptoms of celiac disease but who nevertheless risk uncomfortable physical or psychological effects after consuming gluten, and who may be willing to “tolerate” the discomfort in order to occasionally enjoy their favorite foods or participate in social events. Glutalytic® may make these occasional dietary derailments less problematic.

Glutalytic® is active over a wide range of pH—2.0–8.0—making it effective in the stomach, duodenum and upper GI tract. Data from the manufacturer of Glutalytic® show that 10 grams of purified gliadin were 99% hydrolyzed within 90 minutes of ingestion, and before it reached the lower GI tract. Compared to DPPIV alone, additional exo- and endopeptidases in Glutalytic® result in greater than doubling of the breakdown of gliadin.<sup>1</sup> Glutalytic® also improves digestion of proteins in egg, soy, and milk, which are common sensitivities.

In a randomized, double-blind, placebo controlled study from Kennesaw State University, individuals with self-reported gluten sensitivity experienced fewer gluten-related symptoms after taking Glutalytic® compared to placebo.<sup>2</sup> Improved symptoms included stomach pains, rumbling in the stomach, bloating, headaches, food cravings and poor energy levels.

The proteolytic enzymes in Glutalytic® are effective for facilitating digestion of dairy, soy, and egg proteins in addition to gluten, so this product may provide additional support for individuals with sensitivities to these other hard-to-digest proteins.

## Benefits of AllerGzyme™

- ▶ Enhances digestion of various proteins, particularly those that are inherently difficult to break down by humans and most likely to provoke a sensitivity response
- ▶ Minimizes GI distress from foods
- ▶ May reduce absorption of undigested proteins and reduce the inflammatory response to protein fragments that do get absorbed into the circulation

## Bromelain

Bromelain is a family of sulfhydryl-containing proteolytic enzymes obtained from *Ananas comosus*, the pineapple plant. In addition to its protein digesting action in the gastrointestinal tract, bromelain has been shown to be absorbed intact in the bloodstream, up to 40 percent, peaking one hour after ingestion.<sup>3</sup>

Bromelain has been used as a digestive enzyme following pancreatectomy, in cases of exocrine pancreas insufficiency, and in other intestinal disorders.<sup>4</sup> The combination of ox bile, pancreatin, and bromelain has been shown to be an effective enzyme replacement therapy in patients with pancreatic steatorrhea, resulting in symptomatic improvements in pain, flatulence and stool frequency.<sup>5</sup>

Bromelain exhibits anti-inflammatory activity via multiple mechanisms: inhibiting the generation of bradykinin at the inflammatory site via depletion of the plasma kallikrein system;<sup>6-8</sup> reducing formation of fibrin by reducing clotting cascade intermediates;<sup>9</sup> and increasing synthesis of the endogenous prostaglandins, PGI<sub>2</sub> and PGE<sub>2</sub>, over thromboxane A<sub>2</sub>.<sup>9</sup> Bromelain has also been shown to stimulate conversion of plasminogen to plasmin, resulting in increased fibrinolysis,<sup>9</sup> and has been shown to decrease aggregation of blood platelets.<sup>10</sup>

Bromelain may be effective in reducing symptoms of allergic rhinitis.<sup>11</sup> In a clinical study of 124 patients hospitalized with chronic bronchitis, pneumonia, bronchopneumonia, bronchiectasis, or pulmonary abscess, those receiving bromelain orally showed a decrease in the volume and purulence of the sputum.<sup>12</sup>

## Supplement Facts

Serving Size 1 capsule

Amount Per Serving	% Daily Value
Glutalytic®	350 mg *
Endo-Peptidase Complex	75,000 HUT/500 SAPU *
Exo-Peptidase Complex	125 DPPIV *
Protease ( <i>Bacillus subtilis</i> )	30,000 PC *
Bromelain ( <i>Ananas comosus</i> )(stem)	500,000 PU *

\*Daily Value not established.

**Other Ingredients:** Capsule (hypromellose, water), microcrystalline cellulose, medium chain triglycerides.



### Recommended Use

- As a dietary supplement, take one capsule with each protein-containing meal per day, or as directed by your health care practitioner.
- AllerGzyme™ can be used as a stand-alone product, or a capsule can simply be opened and mixed into a favorite protein shake to maximize digestion and assimilation.
- Consider combining with Digestzymes™ when additional digestive support of fat and carbohydrate is needed.

### References

1. Data on file with Deerland Enzymes.
2. Hudson M, King C. Glutalytic Clinical Trial for Normal Consumption of Gluten Containing Foods. Department of Biology, Kennesaw State University.
3. White RR, Crawley FE, Vellini M, et al. Bioavailability of 125I bromelain after oral administration to rats. *Biopharm Drug Dispos* 1988;9:397-403.
4. Knill-Jones RP, Pearce H, Batten J, et al. Comparative trial of Nutrizym in chronic pancreatic insufficiency. *Brit Med J* 1970;4:21-24.
5. Balakrishnan V, Hareendran A, Sukumaran NC. Double-blind cross-over trial of an enzyme preparation in pancreatic steatorrhea. *J Assn Phys Ind* 1981;29:207-209.
6. Kumakura S, Yamashita M, Tsurufuji S. Effect of bromelain on kaolin-induced inflammation in rats. *Eur J Pharmacol* 1988;150:295-301.
7. Uchida Y, Katori M. Independent consumption of high and low molecular weight kininogens *in vivo*. *Adv Exp Med Biol* 1986;198:113-118.
8. Taussig SJ, Batkin S. Bromelain, the enzyme complex of pineapple (*Ananas comosus*) and its clinical application. An update. *J Ethnopharmacol* 1988;22:191-203.
9. Felton GE. Fibrinolytic and antithrombotic action of bromelain may eliminate thrombosis in heart patients. *Med Hypotheses* 1980;6:1123-1133.
10. Heinicke RM, Van der Wal M, Yokoyama MM. Effect of bromelain (Ananase) on human platelet aggregation. *Experientia* 1972;28:844-845.
11. Thornhill SM, Kelly AM. Natural treatment of perennial allergic rhinitis. *Altern Med Rev*. 2000 Oct;5(5):448-54. Review. PubMed PMID: 11056414.
12. Schafer A, Adelman B. Plasmin inhibition of platelet function and of arachidonic acid metabolism. *J Clin Invest* 1985;75:456-461.

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