





OPTIMIZING DIGESTIVE HEALTH

OPTIZIOME[®] G-D4 ("Glutenase" with dipeptidyl peptidase-4 activity) is a proprietary, microbial protease blend to help promote gluten digestion. Dipeptidyl peptidase-4 activity (DPP-IV) targets peptides that are commonly found in gluten proteins.^{***}

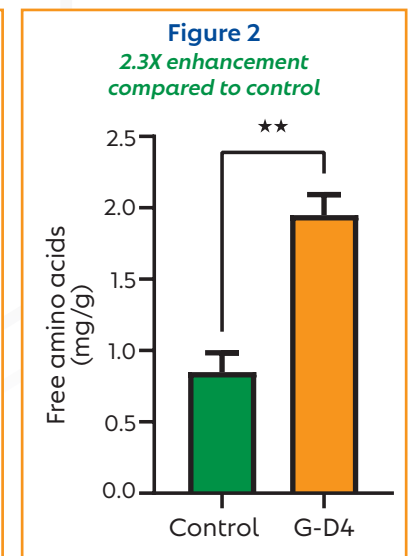
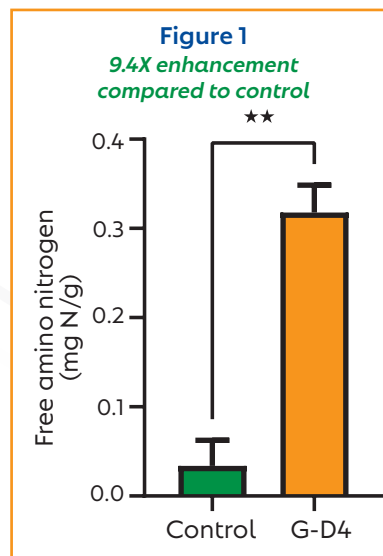
OPTIZIOME[®] G-D4 Claims^{*,**,+}

-  *Helps break down gluten*
-  *Helps digest gluten*
-  *Hydrolyzes gluten*
-  *Supports gluten digestion*

The INFOGEST simulation of salivary-gastric digestion was used to investigate the efficacy of G-D4 on gluten protein hydrolysis in a slurry of whole wheat bread. Protease activity was evaluated by measuring both the 1) release of free amino nitrogen (FAN) from whole wheat bread by spectrometry, and 2) free amino acids by high performance liquid chromatography (HPLC) analysis.[†]





Figure 1. Free amino nitrogen concentrations of gastric digestas following simulated bread digestion. Error bars show ± 1 standard deviation (n = 3). The significant difference between groups (p < 0.01) is denoted by stars.

Figure 2. Free amino acid concentrations of gastric digestas following simulated bread digestion. Error bars show ± 1 standard deviation (n = 3). **, p < 0.01



Increased free amino acids are a marker of gluten protein digestion

For added consumer benefit in:

-  Food & Beverage Applications
-  Digestive Aids
-  Nutritional Supplements
-  Protein Powders

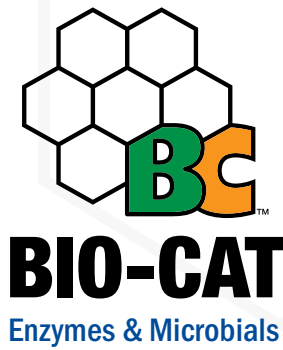


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*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

**This product is not intended to replace a gluten-free diet or treat or prevent celiac disease.

†Supported by standard in vitro gastric digestion experiments that showed enhanced amino acid release from whole wheat bread (BIO-CAT Data on File; BCTR0012).



portfolio of branded solutions:

For Protein:



For Gluten:



For Gut Health:



About BIO-CAT

In 1988 Ed Schuler and his son, Chris Schuler, founded BIO-CAT, Inc. in Keswick, Virginia. They had a vision to create a better world by utilizing natural enzyme technology for a more sustainable future. Along with their business associate, Brian Huffman, they worked out of Ed's house and Brian's barn. They started with one small 20-kilogram blender, a few exhaust fans to control dust, and a small shed for warehousing and shipping. They grew the company steadily over the ensuing years into the most formidable specialty enzyme operation in North America.

BIO-CAT was one of the first wholesalers of premium dietary enzymes in the United States, and the forerunners in developing formulas for use in digestive preparations. Over the years, BIO-CAT has developed expertise in enzyme formulation and custom blending and offers a best-in-class range of products from single-to multi-enzyme blends. In 2004, BIO-CAT acquired BIO-CAT Microbials, launching them to their *Bacillus* probiotic success. Today, BIO-CAT Microbials is regarded as the *Bacillus* expert.



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