

BACKGROUND INFORMATION

Certain peptide sequences resulting from the partial digestion of gluten proteins have been linked to the exacerbation of gastrointestinal conditions caused by autism spectrum disorders and irritable bowel diseases. One of the enzyme activities required to break down these peptides has been identified as dipeptidyl peptidase IV (DPP IV). The lack of this enzyme activity in the small intestine due to the above conditions prevents the digestion of these peptide fragments. These peptide fragments, if left undigested, are thought to elicit immune responses that can inflame the lining of the small intestine. Also, in the case of autism spectrum disorders it has been postulated that these peptides have systemic effects that can cause certain symptoms of autism.

Biocore[®] DPP IV is a proprietary formulation of proteases providing a standardized DPP IV activity. The DPP IV activity in Biocore[®] DPP IV is standardized at 5000 units/g (Table 1). Biocore[®] DPP IV also provides 300,000 HUT/g and 85 aminopeptidase units per gram of the product. The recommended dose for Biocore[®] DPP IV is 100 mg. The proteases in Biocore[®] DPP IV are stable in the acidic environment of the stomach as shown in Figure 1.

Inflammatory bowel disease (IBD) is a collection of chronic disorders that include Crohn's disease, ulcerative colitis and celiac disease. A pro-inflammatory cytokine, tumor necrosis factor (TNF-), plays an important role in many forms of IBD. Many successful drugs for IBD like Infliximab have anti-TNF- activity. This category of drugs is expensive however; and the cost of treating a single patient per year can range from \$25,000 to \$30,000. These therapies also have to be administered intravenously, necessitating a visit to a medical facility each time. The mechanism of action of anti-TNF- therapies involve the binding to or cleaving of TNF-, resulting in the inactivation of the inflammatory action of TNF-. Our research has shown that the proteases in Biocore[®] DPP IV can selectively cleave and inactivate TNF- in vitro. We have also used an animal model of acute TNF- induced intestinal inflammation to show that the proteases in Biocore[®] DPP IV have significant therapeutic promise as anti TNF- agent.

The information contained in this rationale is intended for educational purposes only. It is neither to be used to market or advertise a product nor to make labeling claims. The FDA and FTC have strict regulations concerning how information can be used in promoting a dietary supplement, and it is recommended that adherence to these regulations be followed.

Supplement Facts	
Serving size: 100 mg	
Amount per serving	% DV
BioCore [®] DPP-IV	100 mg
Protease (from <i>Aspergillus oryzae</i>)	30,000 HUT *
Protease (from <i>A. oryzae</i>)	500 DPP-IV *
Protease (from <i>Aspergillus melleus</i>)	8.5 AP *

* Daily value not established

Table 1

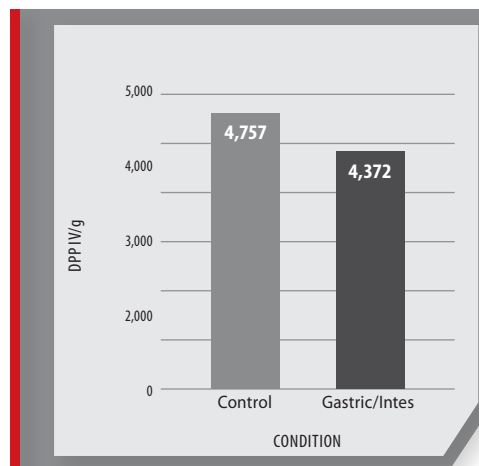


Figure 1