

# Mega-Polyzyme™

Full Spectrum Digestive Enzymes\*

Papain

Bromelain

Lipase

Full spectrum vegetarian digestive enzymes to support the digestion of macronutrients\*

Enzymes are complex proteins that act as catalysts to facilitate biochemical reactions without being changed themselves. They are important in many aspects of food production, including fermentation, and provide us with sweetners, cheese, alcoholic beverages, and soy sauce, as well as tenderizing meat. Enzymes are also naturally found in varying amounts in raw fruits and vegetables.

Digestive enzymes are found throughout the gastrointestinal tract although the pancreas produces and secretes the majority of them. These enzymes are vital digestive components that are essential for optimal digestion. Factors such as increasing age, overeating, stress, and other negative lifestyle factors may interfere with enzyme production resulting in digestive disturbances. Poor enzyme production may lead to occasional digestive issues such as indigestion, gas, and constipation which can negatively affect the health and well-being of the entire

body. Supplementation with digestive enzymes can assist with compromised digestive function, resulting in improved health through an increase in the absorption of essential nutrients as well as relieving the burden of enzyme production from the pancreas.\*

# Supplementation with Mega-Polyzyme:

- Improves breakdown of fats, carbohydrates, and proteins\*
- Increases absorption of nutrients from food\*
- May decrease indigestion, gas, and bloating\*
- Improves enzyme activity in varying pH environments\*
- Decreases inflammation and pain after physical activity\*













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

For educational purposes only. Consult your physician for any health concerns.

# **Full Spectrum Digestive Enzymes\***

# Mega-Polyzyme™

# How does Mega-Polyzyme work?

Mega-Polyzyme is a full spectrum vegetarian digestive enzyme formula providing microbial-derived and plant-derived enzymes. They are sourced from non-genetically modified organisms. When taken with meals, Mega-Polyzyme assists in the breakdown of macronutrients for improved digestion and absorption.\*

When the diet consists mostly of processed or cooked foods without an ample supply of raw produce, or when intrinsic enzyme production is poor, enzyme supplementation may be beneficial. This vegetarian formula is an effective way to supplement with the enzymes our bodies need to promote efficient digestion.\*

# Importance of Enzyme Activity Labeling:

All of the enzymes in Mega-Polyzyme are reported in units of activity according to standards set by the Food Chemical Codex (FCC) or the European Pharmacopeia. For example, bromelain activity is reported in GDU or gelatin digesting units. Standardized activity levels of enzymes, verified through laboratory testing, gives physicians and patients reassurance of the bioactivity of the enzymes found in Mega-Polyzyme.

# What the research and clinical use shows:

Digestive enzyme supplementation is part of the standard treatment of several chronic conditions such as exocrine pancreatic insufficiency, chronic pancreatitis, cystic fibrosis, diabetes, and lactose intolerance. Digestive enzymes have also been used clinically in conditions such as malabsorption, gas, bloating, and acid reflux, where improved digestive function and increased nutrient absorption are desired.

### **Amylase**

Amylase enzymes, found in saliva and pancreatic secretions, break carbohydrate strands into ready-to-use simple sugars like glucose to fuel the body. Amylase is critical for creating glucose from starches in the diet. Supplementation with amylase assists the body's own enzymatic breakdown of complex carbohydrates.

# **Protease**

Proteases break proteins into peptides and amino acids allowing for proper digestion and efficient absorption. Proteases have been studied in the realm of physical function and performance and appear to reduce inflammation and improve injury recovery without side effects associated with non-steroidal anti-inflammatory drugs (NSAIDS).<sup>2</sup>

### **Papain**

Made from the latex found in the skin of papaya (*Carica papaya*), papain contains a complex of enzymes that promote the breakdown of carbohydrates, proteins, and fats.<sup>3</sup> Studies show that papain assists in the body's own digestive process by encouraging the gastric mucosa to release more native enzymes.<sup>4</sup>

#### **Bromelain**

Bromelain, derived from pineapple (*Ananas comosus*), is the name of a group of proteolytic (protein-digesting) enzymes.<sup>3</sup> An advantage of using pineapple-derived bromelain is its stability in a wide variety of pH environments. Because of its versatility, bromelain is able to work in both the stomach and the small intestine.<sup>3</sup> Bromelain has been studied in a variety of contexts and shows promise in reducing pain and inflammation in both osteoarthritis and rheumatoid arthritis.<sup>5</sup>

# Lipase

Lipase assists in the breakdown of fats into smaller fatty acids for absorption. In the body, lipase is naturally produced by the pancreas. Fat malabsorption can lead to fatty stools (steatorrhea) and poor absorption of the fat-soluble vitamins A, E, D, and K.<sup>6</sup> Vegetarian lipase has a theoretical advantage over animal-sourced lipases in that it may be better able to withstand varying pH levels in the GI tract.<sup>6</sup>

#### **Supplement Facts** Serving Size: 1 Vegetarian Capsule Servings Per Container: 60 Amount Per Serving % DV Proprietary Enzyme Blend 220 mg **Amylase** 10,000 SKB Protease 50,000 HUT \*\* Papain 35,000 TU \*\* Bromelain 100 GDU Lipase 500 FIP \* Daily Value (DV) not established.

**Other ingredients:** Cellulose (from capsule), Organic Rice Flour, Nu-Mag, Nu-Flow.

# Dairy, Soy, Egg & Gluten Free. Vegetarian †

**Suggested Use:** Take 1 capsule with a meal or as directed by your physician.

**Caution:** For adults only. Consult physician if you are pregnant/nursing, taking medication or have a medical condition.

### Keep out of reach of children.

**Allergen Information:** Contains no artificial coloring, artificial flavors, yeast, corn starch, milk, or milk derivatives, lactose, salt, soy, gluten, egg, wheat, fish, shellfish or tree nut ingredients. Produced in a GMP facility that processes other ingredients containing these allergens.

Store in a cool, dry place or refrigerate.

†Suitable for Vegetarians.

Manufactured in the USA in a GMP compliant facility.

#### References:

- <sup>1</sup> Ianiro G, Pecere S, Giorgio V, Gasbarrini A, Cammarota G. Digestive Enzyme Supplementation in Gastrointestinal Diseases. *Curr Drug Metab*. 2016:17(2):187
- <sup>2</sup> Miller PC, Bailey SP, Barnes ME, Derr SJ, Hall EE. The effects of protease supplementation on skeletal muscle function and DOMS following downhill running. J Sports Sci. 2004;22(4):365-372.
- <sup>3</sup> Roxas M. The role of enzyme supplementation in digestive disorders. *Altern Med Rev.* 2008;13(4):307-314.
- <sup>4</sup> Muss C, Mosgoeller W, Endler T. Papaya preparation (Caricol®) in digestive disorders. *Neuro Endocrinol Lett*. 2013;34(1):38-46.
- <sup>5</sup> Pavan R, Jain S, Shraddha, Kumar A. Properties and Therapeutic Application of Bromelain: A Review. *Biotechnol Res Int*. 2012;2012.
- <sup>6</sup> Layer P, Keller J. Lipase supplementation therapy: standards, alternatives, and perspectives. *Pancreas*. 2003;26(1):1-7.

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