XymoZyme®

Acid-Resistant, Vegan-Suitable Digestive Enzymes*

Available in 60 capsules and 120 capsules

Clinical Applications

- Supports Healthy Digestion of Macronutrients and Enhances Nutrient Absorption*
- Supports Breakdown of Polysaccharides in Beans and Cruciferous Vegetables*
- Helps Support Pancreatic and Brush Border Enzyme Function*
- Supports Breakdown of Lactose*

XymoZyme® *contains a broad spectrum of digestive enzymes to support the digestion of fats, proteins, carbohydrates, fibers, and lactose. This vegan-suitable, gastrointestinal health formula provides key digestive enzymes, including lipase, proteases, alpha-galactosidase, hemicellulase, papain, and lactase. It is designed to be effective in a wide pH range, in contrast to the narrow pH range required with porcine pancreatin.**

Discussion

Digestion Food must be broken down into its component parts in order to be absorbed into the bloodstream. Though salivary secretions, chewing, gastric acid, and pepsin begin the process of digestion, the majority of digestion takes place farther down the gastrointestinal tract in the small intestine. Once food leaves the stomach and enters the small intestine, digestive enzymes begin the monumental task of turning it into the building blocks and fuel that the body needs for structural support and metabolic processes. Digestive enzymes are produced primarily in the pancreas and brush border of the small intestine, and the health and function of these organs is vital to effective digestion and absorption. Proteolytic enzymes, amylases, and lipases are responsible for the digestion of proteins, carbohydrates, and fats. The complete digestion of these macronutrients produces small peptides, amino acids, monosaccharides and disaccharides, and free fatty acids that can easily pass through the intestinal microvilli and enter the bloodstream. Healthy digestion assures that incompletely digested molecules and proteins don't enter the bloodstream where they may be recognized as "foreign" by a vigilant immune system.*[1,2]

Pancreatic and Intestinal Enzymes Pancreatic production of proteases, amylases, and lipases is complemented by intestinal production of lactase, maltase, sucrase, enterokinase, and various peptidases, highlighting the importance of the pancreas and the intestines in the digestive process. The enzyme lactase is required to break down lactose into glucose and galactose before the intact lactose can draw excess water into the bowel, and before colonic bacteria can break it down into volatile gases and acids. Though lactose (a disaccharide found only in mammals' milk) is readily digested by most infants, normal production decreases as a child is weaned onto whole foods and may eventually cease in adulthood. Exogenous administration of lactase can support lactose digestion effectively and allow for continued consumption of milk-based products.[3,4] Maintaining a healthy gastrointestinal flora helps support brush border function and digestive capacity as well.*[5]

Digestion of Plant-Based Compounds XymoZyme contains several principle digestive enzymes as well as a complement of enzymes designed to break down plant compounds and fibers that humans would otherwise be unable to digest. Raffinose and melibiose, carbohydrates commonly found in legumes, can be broken down by the intestinal enzyme alpha-galactosidase. In the absence of this enzyme, these carbohydrates pass into the large intestine, where microbes can ferment them and produce volatile gases. Exogenous administration of alpha-galactosidase, present in XymoZyme, supports the digestion of these plant-based compounds and has been used safely and effectively.[6,7] Beta-glucanase, hemicellulase, pectinase, xylanase, and dipeptidyl peptidase (DPPIV) are also present and improve the digestibility of plant-based foods by breaking down plant cell walls, fibers, and proteins. Phytase is present to facilitate the breakdown of indigestible phytates from grains and seeds, and release phosphorus, calcium, inositol, and other nutrients for absorption. Bromelain and papain offer additional support for protein digestion. The enzyme invertase catalyzes sugar to glucose and fructose.*

XymoZyme incorporates amylase, lipase, proteases, hemicellulase, bromelain, papain, lactase, DPPIV, and other key digestive enzymes to provide a comprehensive formulation that functions in a wide pH range to support and facilitate healthy digestion. It has been formulated to allow flexible dosing that can be adjusted for individual needs.*

*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.

XymoZyme® Supplement Facts

Serving Size: 2 Capsules

	Amount Per Serving	%Daily Value
Enzyme Blend	400 mg	**
Protease (pH 3.0-9.0)	120,000 HUT	**
Papain (from papaya)	50,000 TU	**
Bromelain (from pineapple)	120 GDU	**
Amylase	4,000 SKB	**
Amyloglucosidase (glucoamylase)	30 AGU	**
Cellulase	4,000 CU	**
Beta-Glucanase	50 BGU	**
Alpha-Galactosidase	400 GALU	**
Invertase	2,000 SumnerU	**
Peptidase (29 DPPIV)	2,400 HUT	**
Pectinase	70 Endo-PGU	**
Lactase	700 ALU	**
Phytase	20 FTU	**
Acid Stable Protease (pH 2.0-3.5)	400 HUT	**
Lipase	1,200 FIP	**
Xylanase	300 XU	**
Hemicellulase	200 HCU	**

** Daily Value (DV) not established.

Other Ingredients: Capsule (hypromellose and water), microcrystalline cellulose, stearic acid, magnesium stearate, and silica.

DIRECTIONS: Take 1-2 capsules daily, or use as directed by your healthcare professional. If necessary, capsules may be opened and contents sprinkled over food.

Consult your healthcare professional prior to use. Individuals taking medication should discuss potential interactions with their healthcare professional. Do not use if tamper seal is damaged.

STORAGE: Keep closed in a cool, dry place out of reach of children.

FORMULATED TO EXCLUDE: Wheat, gluten, yeast, soy, animal and dairy products, fish, shellfish, peanuts, tree nuts, egg, sesame, ingredients derived from genetically modified organisms (GMOs), artificial colors, and artificial sweeteners.

Maltodextrin (derived from corn) is used to standardize enzyme activity.

VEGETARIAN CAPS

References

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4. Heyman MB; Committee on Nutrition. Lactose intolerance in infants, children, and adolescents. *Pediatrics*. 2006 Sep;118(3):1279-86. Review. [PMID: 16951027]
5. Zaouche A, Loukil C, De Lagausie P, et al. Effects of oral Saccharomyces boulardii on bacterial overgrowth, translocation, and intestinal adaptation after small-bowel resection in rats. *Scand J Gastroenterol*. 2000 Feb;35(2):160-5. [PMID: 10720113]
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7. Ganiats TG, Norcross WA, Halverson AL, et al. Does Beano prevent gas? A double-blind crossover study of oral alpha-galactosidase to treat dietary oligosaccharide intolerance. *J Fam Pract*. 1994 Nov;39(5):441-5. [PMID: 7964541]

Additional references available upon request

All XYMOGEN® Formulas Meet or Exceed cGMP Quality Standards.

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