

# Best Digestive Enzymes

## Best Digestive Enzymes

90 Vegetarian Capsules

Ingredients per vegetarian capsule:

Best Digestive Enzyme blend containing:

Amylase Blend (2 Strains) .....	20,000 DU
Protease SP Plus Blend (4 strains) .....	75,000 HUT
Protease having DPP IV activity .....	20,000 HUT
Bromelain.....	50 GDU
Papain .....	500,000 FCC PU
Invertase .....	100 Invu
Cellulase .....	3250 CU
Beta-glucanase.....	65 BGU
Alphagalactosidase .....	500 GalU
Hemicellulase.....	750 HCU
Xylanase.....	650 XU
Phytase .....	10 FTE
Glucoamylase.....	50 AGU
Lipase .....	3000 FIP
Lactase.....	1000 ALU
Bacillus subtilis.....	1 billion CFU

Excipients: vegetarian capsule (cellulose)

Suggested Adult Use: Take 1 capsules daily with each meal.

SUITABLE FOR VEGETARIANS

## Ingredients

**Best Digestive Enzymes – All Vegetarian** is a uniquely formulated, full-spectrum high potency digestive enzyme blend created to complement and support the body's own digestive capacities. Each capsule provides the body with vegetarian microbial-derived enzymes designed to optimally aid the digestion of fats, proteins and carbohydrates present in cooked and raw food.\* The formula supplies the added support of alpha-galactosidase and beta-glucanase to break down vegetables, beans and grains, and enzymes such as glucoamylase and invertase to assist with the digestion of sugars.\* In addition, this complete formula contains friendly bacteria and other cofactors to uniquely promote optimal intestinal health.\*

## Benefits

**Provides Optimal Support for Healthy Digestion\***

**Assists Digestion of Proteins, Carbohydrates and Fats\***

Digestive enzymes are produced by the pancreas and secreted into the duodenum (upper small intestine), where proteins, carbohydrates and fats are broken down prior to absorption. As we age, the body's capacity to produce enzymes may decline. Moreover, stress and other health difficulties may impact enzyme production.

Overeating sometimes causes incomplete digestion. Occasional heartburn, bloating, belching, discomfort, and a "sour stomach" is often a result of this.

Supplementation with the enzymes in Best Digestive Enzymes supports replenishment of the body's enzyme levels, helping to relieve the burden on an overworked pancreas.

## Benefits of Microbial Enzyme Supplementation

Enzyme supplementation promotes enhanced digestion and delivery of vital nutrients to the body.\* This benefits good health in many ways, including better elimination, support for healthy energy levels and maintenance of healthy body weight. Enzymes also help prevent accumulation of undigested foods in the large intestine, which may disrupt the normal healthy bacterial balance in the bowel.

*Best Digestive Enzymes – All Vegetarian* contains microbial-derived enzymes that have a long history of research and use in Japan and in Europe. In fact, research on such non-animal source enzymes for therapeutic purposes has been conducted since the 1950s in Europe and Scandinavia. Scientists there were the first to report on the isolation and purification of individual enzymes from microbes such as *Aspergillus oryzae* and others. They also were the first to publish reports on the use and efficacy of various microbial enzymes for therapeutic purposes in studies on animals and humans.<sup>1</sup>

Microbial-derived enzymes have distinct advantages over animal-sourced enzymes such as pancreatin and have been shown to be more effective at supporting the digestive physiology of the human body when supplemented. Animal-derived standard enzyme preparations are active only in a small pH range and the activity of these enzymes is destroyed by acidic conditions in the stomach. By contrast, microbial-derived enzymes have higher activity levels (less enzyme has to be used for the same purpose) and are active over a wide pH range, with some reports showing activity from pH 2 to 10. This means that while over 90% of animal-derived enzymes may be inactivated in the stomach and be useless for digestive purposes, microbial-derived enzymes would begin digesting food in the acidic conditions of the stomach and continue this process well into the small intestine, increasing the efficiency of the digestive process.<sup>1</sup>

## Profile of Enzymes in Best Digestive Enzymes – All Vegetarian

### Support for Carbohydrate and Fiber Digestion Human Trials

Alpha-galactosidase – An enzyme that facilitates the breakdown of carbohydrates such as raffinose and stachyose. This enzyme is especially helpful in supporting the digestion of raw vegetables and beans. A study published in 1994 showed that alpha-galactosidase supplementation was effective at reducing indigestion and flatulence in healthy individuals consuming a high-fiber diet consisting of grains, beans and other vegetables.<sup>2</sup>



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**Amylase** – This enzyme functions to break down carbohydrates such as starch and glycogen, a storage form of glucose.

**Beta-glucanase** – An important enzyme that facilitates the digestion of beta-linked glucose bonds associated with whole grains such as barley, oats and wheat.

**Cellulase** – This enzyme helps free the nutrients found in both fruits and vegetables by breaking down cellulose, a plant fiber.

**Glucoamylase** – This enzyme complements the function of hemicellulase by breaking down polysaccharides from plants.

**Hemicellulase** – This enzyme assists in the breakdown of carbohydrates and is most useful for enhancing the efficiency of polysaccharide digestion from plant foods.

**Invertase** – This enzyme facilitates the breakdown of carbohydrates and is especially effective at helping to digest sucrose, common table sugar.

**Lactase** – This enzyme is necessary for the proper utilization and digestion of lactose, the predominant sugar found in milk and other dairy products.

**Phytase** – This enzyme breaks down plant carbohydrates and is especially helpful at breaking down phytic acid found in leafy vegetables. Because it breaks down phytic acid, it frees the minerals in plants and aids in their absorption.

**Xylanase** – This enzyme is a sub-type of hemicellulase and functions to break down soluble fiber from food sources.

### Support for Protein Digestion

**Bromelain** – An enzyme that is derived from pineapple, this nutrient also facilitates the digestion of proteins. Bromelain has also been associated with a wide range of diverse health benefits of its own.

**Papain** – This enzyme is derived from papaya and serves to enhance the digestion of proteins, facilitating nutrient absorption.

**Protease** – This enzyme supports the digestion of protein and protein-containing foods, breaking them into absorbable units of amino acids, the building blocks for the body's regenerative purposes.

### Support for Fat Digestion

**Lipase** – The main enzyme that functions to break down lipids and improve fat utilization. In this capacity, it supports the function of the gall bladder. The microbial-derived lipase used in this formulation has been shown to have much higher activity levels than animal-derived lipase enzyme, enhancing the efficiency of fat digestion. Microbial lipase is resistant to inactivation by stomach acid and can digest dietary fat beginning in the stomach and continuing into the small intestine. A study in animals showed that a microbial-derived lipase was as effective at digesting fat as a 25 times larger dose of conventional pancreatin.<sup>3</sup>

### Beneficial Micro-Organisms

**Bacillus subtilis** – Although this bacteria is not known to be native to the human digestive tract, supplementing with this important probiotic organism promotes a healthy bacterial balance in the intestines. Probiotic organisms have been researched for their ability to support healthy immune function, efficient digestion and the general health and well being of the digestive tract.\*

### Supplemental Enzymes May Enhance Overall Health\*

The nature of the digestive process in the human body is such that it is highly energy-intensive. The pancreas is the organ that produces most of the digestive enzymes required for food breakdown and secretes them into the small intestine. The lower the efficiency of digestion in the stomach, the higher the requirement for newly manufactured pancreatic digestive enzymes. This process can place a burden on the pancreas, which may, in turn, place a large burden on the rest of the body. If the pancreas is working overtime to support our body's digestive process, it is diverting crucial resources from normal repair functions the body may

need to perform in diverse organs and systems.

However, the body has developed a compensation method for dealing with this undue burden. The body smartly recycles enzymes that it produces as the unused portions enter the bloodstream into systemic circulation. Research has shown that this recycling is facilitated by pancreatic secretory cells themselves. These cells, which normally secrete enzymes produced by the pancreas into the small intestine, serve as collectors of unused enzymes that are circulating in the blood stream and can then re-secrete these enzymes into the intestines when needed for digestion. This reduces the burden on the pancreas to produce newly manufactured enzymes in increasingly large amounts. What is most interesting, however, is research that shows that this mechanism is used by the body not only for the endogenous (produced by the pancreas) enzymes that are in circulation, but also for exogenous (i.e supplemental) enzymes taken in from an outside source.<sup>5</sup>

Supplementing with enzyme formulations containing a full-spectrum of digestive capacity, such as *Best Digestive Enzymes – All Vegetarian*, can reduce the need for the pancreas to manufacture enzymes and reduce the need for the body to devote large amounts of resources for this purpose. This frees up the body to devote its energies to the daily maintenance of other critical bodily organs and systems, potentially maintaining and enhancing overall health.

\*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.

### Scientific References

1. Resnick C. (2006). Microbial Enzyme Therapy. In JE Pizzorno and MT Murray (Eds.), Textbook of Natural Medicine. (pp.1075 – 1083). St Louis, MO:Churchill Livingstone Elsevier.
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3. Griffin SM, et al. Acid resistant lipase as replacement therapy in chronic pancreatic exocrine insufficiency: a study in dogs. Gut 1989; 30: 1012-1015.
4. Brown AC and Valiere A. Probiotics and medical nutrition therapy. Nutr Clin Care 2004; 7:56-68.
5. Leibow C, Rothman SS. Enteropancreatic circulation of digestive enzymes. Science 1975; 189:472-474.

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# Doctor's BEST<sup>®</sup>

Science-Based  
Nutrition<sup>™</sup>

Dietary  
Supplement

**Best  
Digestive  
Enzymes**

OPTIMAL SUPPORT FOR  
HEALTHY DIGESTION\* **All  
Vegetarian**

**90 Veggie Caps**

## Supplement Facts

Serving Size 1 capsule

Servings per container 90

	Amount per serving	% Daily Value
Best Digestive Enzyme blend		
Amylase Blend (2 strains)	20,000 DU	†
Protease SP Plus Blend (4 strains)	75,000 HUT	†
Protease having DPP IV activity	20,000 HUT	†
Bromelain	50 GDU	†
Papain	500,000 FCC PU	†
Invertase	100 Invu	†
Cellulase	3250 CU	†
Beta-glucanase	65 BGU	†
Alphagalactosidase	500 GalU	†
Hemicellulase	750 HCU	†
Xylanase	650 XU	†
Phytase	10 FTE	†
Glucoamylase	50 AGU	†
Lipase	3000 FIP	†
Lactase	1000 ALU	†
Bacillus subtilis	1 billion CFU	†

† Daily Value not established.

**Other ingredients:** Vegetarian capsule (cellulose).

**Suggested adult use:** Take 1 capsule with each meal.

**Suitable for Vegetarians**

**CONTAINS NOTHING OTHER THAN LISTED INGREDIENTS**