



Proactazyme Plus

Stock #1525-0 (100 capsules)

Proactazyme Plus is a full-spectrum enzyme supplement formulated to improve the digestion and utilization of nutrients from food. Proactazyme Plus contains an wide array of plant-based enzymes to effectively break down proteins, starches, sugars, fats and plant fiber. Proactazyme Plus also provides a unique blend of herbs and nutrients that increases the body's production of salivary and digestive fluids and enhances liver and gallbladder function to ensure optimal digestive function. Proactazyme Plus is designed to relieve digestive problems resulting from inadequate digestion, poor diet, stress, and the side-effects of certain prescription medications, including heartburn, indigestion, constipation, gas and bloating.

Enzymes are essential nutrients that initiate virtually all of the chemical reactions occurring within the body. Enzymes also aid in the elimination of toxins, including potentially harmful allergens and environmental pollutants. Unless obtained in the diet (from raw fruits and vegetables or dietary supplements), the constant demands on the body to manufacture enzymes can cause enzyme deficiency—a common problem that can lead to digestive dysfunction, cardiovascular disease, obesity, cancer and other illnesses. For example, enzyme deficiency is believed to be part of the mechanism that enables cholesterol deposits to accumulate along the inside of arterial walls, ultimately manifesting in heart disease.¹⁻⁴

Incomplete digestion can be a major contributor to the development of numerous disease conditions. Approximately 58% of the population is believed to suffer from some type of digestive disorder. Not only can digestive dysfunction lead to nutritional deficiency and the upset of healthy bowel flora, but in addition, incompletely digested macromolecules can be absorbed into the systemic circulation (the bloodstream). This can lead to a variety of immune complex diseases and is theorized to play an integral role in the development of food allergies. Antigenic (capable of producing an immune response) macromolecules can trigger the body's defenses against exposure to what is perceived as foreign protein, thus producing symptoms of allergy. Furthermore, incompletely digested protein creates a favorable environment for "unfriendly" colonic bacteria, many of which create toxic substances that are absorbed by the body.⁴⁻⁶

Each capsule of Proactazyme Plus contains:

Proteases (collectively referred to as proteolytic enzymes) break down proteins into single amino acids that can be absorbed by the body. Proteases digest protein at the rate of up to 300 grams per hour. However, protease supplementation is beneficial for more than just improving digestion. Numerous human studies show that supplemental proteases given orally are used to treat acute inflammatory conditions, reduce and eliminate food allergies, fight cancer and infections, and combat auto-immune diseases. Research also shows that proteases are largely responsible for keeping the small intestine free of parasites, including bacteria, intestinal worms, protozoa and yeast. Thus, a lack of protease can greatly increase the chances of intestinal infection, including the overgrowth of the yeast *Candida albicans*. Protease 3.0 breaks down most soluble proteins in the stomach, while Protease 4.5 facilitates protein digestion in the stomach and pyloric regions of the small intestine, and Protease 6.0 digests proteins throughout the digestive tract.^{1,7-13}

Amylase breaks down glycogen, starches and the majority of other carbohydrates into smaller carbohydrate molecules (also referred to as simple sugars), such as dextrans and sugars. Amylase facilitates the digestion of high-starch foods, including white breads, pasta and potatoes.^{1,5,14-17}

Glucoamylase breaks down carbohydrates, particularly starches, into glucose in the small intestine. A deficiency of glucoamylase can result in diarrhea following the ingestion of starches.^{7,18-20}

Lipase is a digestive enzyme that breaks down fat (lipids), including triglycerides (fats and oils), phospholipids (such as lecithin) and sterols (such as cholesterol). Research has shown that lipase improves fat digestion. It is also important to note that bile, which is stored in the gallbladder, helps emulsify fats and enables lipase to digest fats more efficiently. Furthermore, sufficient levels of lipase and bile salts are required for proper vitamin A absorption.^{1,6,14-16,21}

Cellulase/Hemicellulase is an enzyme mixture that breaks down cellulose—the otherwise indigestible fiber found in fruits and vegetables—as well as cereal glucans. Cellulase enables additional nutrients to be released from the plant fiber. Cellulase is also used as a digestive aid to help reduce the bulking effect of fibrous foods and prevent flatulence.^{1,7,22-24}

Invertase breaks down carbohydrates, particularly sucrose, into fructose and glucose. Thus, invertase enhances the digestion of refined sugars.^{7,25,26}

Malt Diastase breaks down carbohydrate-rich foods, especially those produced from grains, in the small intestine.^{7,18,27}

alpha-Galactosidase breaks down the sugars (oligosaccharides) present in legumes and cruciferous vegetables, including beans, broccoli, brussels sprouts, cabbage and peas. When not properly digested, these sugars remain in the digestive tract where they ferment, causing intestinal gas.^{7,22}

Peptidase, a proteolytic enzyme, is responsible for the final step in protein digestion, which takes place in the small intestine.^{5,28}

Beet root - Beets are reported to have antihepatotoxic (to protect the liver from toxins) effects. In addition, research has shown that beets keep fat from depositing in the liver of rats, most likely due to the presence of betaine in beets. Betaine has a positive effect on fat metabolism in the liver and has been used as a lipotropic (a substance that prevents abnormal or excessive accumulation of fat in the liver) to prevent and treat non-alcoholic fatty liver disease. Betaine also lowers blood homocysteine levels, which, when elevated, promote the development of atherosclerosis (the progressive narrowing and hardening of the arteries). Furthermore, beets are a source of numerous vitamins and minerals.²⁶⁻³²

Potassium citrate is an alkaline salt used in enzyme supplements to help maintain an optimal pH range, which facilitates enzyme activity. In addition, a recent study found that potassium citrate reduced bone resorption (bone-loss), thereby combating the potential adverse effects chronic acidemia (an over-acid condition) caused by protein-rich diets.^{1,33}

Caraway seed is approved by the German Commission E for dyspeptic complaints (indigestion), and is also used for gastrointestinal cramps, flatulence (intestinal gas), feelings of fullness and sluggish digestion. Caraway aids digestion by stimulating the release of digestive enzymes and by soothing the lining of the gastrointestinal tract. In addition, caraway seed contains a volatile oil that has been shown to have antimicrobial effects against certain bacteria.^{26,34-36}

Dandelion root contains an abundance of bitter substances that increase gastric and salivary juice secretions and stimulate the release of bile from the gallbladder and liver. Dandelion is classified as a liver tonic because it increases the production and flow of bile to the gallbladder (a choleric effect) and directly stimulates contraction of the gallbladder, thus causing the release of stored bile (a cholagogue effect). Results from animal and human studies have shown improvement with the use of dandelion root in gallstones, jaundice (a liver disorder that causes yellowing of the skin and the whites of the eyes), liver congestion, hepatitis (inflammation of the liver) and bile duct inflammation. Dandelion root is approved by the German Commission E for dyspepsia and bile flow problems.^{26,36-39}

Fennel seed is approved by the German Commission E for digestive disorders such as bloating, dyspepsia, feelings of fullness and flatulence, as well as mild, spastic (cramping) gastrointestinal complaints (i.e. spastic colon, also known as irritable bowel syndrome). Fennel seed increases bile production and regulates the peristaltic functions of the gastrointestinal tract, thereby reducing enhancing gastric motility and increasing the passage of gas. Furthermore, results of a recent study indicate that fennel seed oil has a potent hepatoprotective (liver-protecting) action against experimentally-induced liver damage in rats.^{26,34,36-38,40-42}

Gentian root is approved by the German Commission E for digestive disorders related to insufficient production of gastric (stomach) juices, such as flatulence and feelings of fullness. The active principles in gentian are bitter substances that promote increased secretion of saliva and digestive juices, as well as bile, which helps emulsify fats. In fact, the taste of gentiopicrin and amarogentin, two of the most bitter compounds known, are reported to be detectable even when diluted as much as 50,000 times.^{6,34-37,40}

Ginger root contains various compounds that act as digestive stimulants, enhancing gall bladder activity and encouraging the production of digestive fluids and saliva. Ginger also improves gastric motility (movement through the digestive tract), while exerting antispasmodic (muscle-relaxing) effects to reduce intestinal cramping, thus confirming its use as a gastrointestinal tonic. Ginger is approved by the German Commission E for dyspepsia.^{6,26,37,38}

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