

EnzyGenic

Digestive Enzymes

Alimentum Labs

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Digestive Enzymes

Provides common and unique digestive enzymes that address genetic limitations of enzyme production, aiding in the alleviation of food sensitivities, such as gluten, lactose, FODMAP, and other digestive issues.



Gut



Detox



Immunity



Metabolism

Health Indications

- Limit Reactions to Food Sensitivities
- Alleviate Gastrointestinal Distress Symptoms
- Support Proper Digestion
- Enhance Nutrient Absorption
- Eliminate Digestive Plaques
- Improve Microbiome Diversity
- Expand the Variety of Tolerable Foods

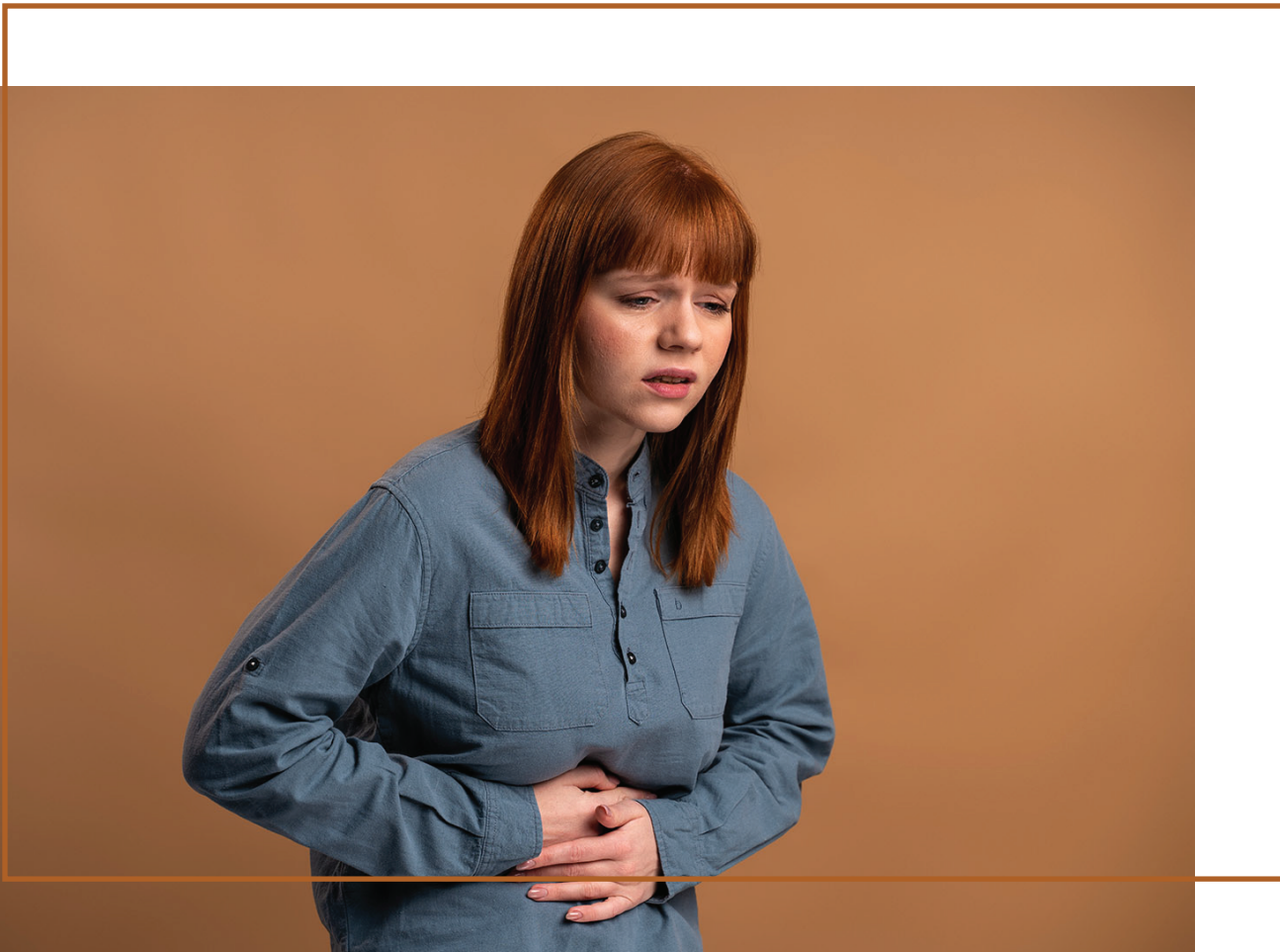
Instructions For Use

Take 1-2 capsules with meals to aid with digestion, or as directed by your healthcare provider.

**Individual needs may vary; please consult your practitioner before altering the prescribed doses or protocols.

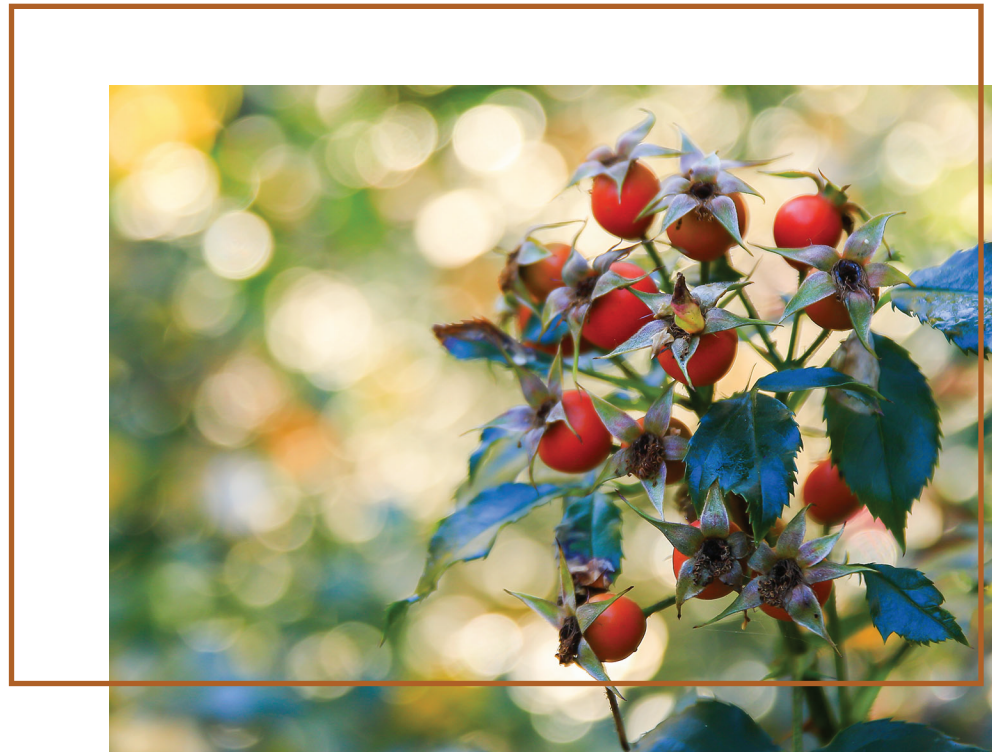
Product Description

Genetics are an important factor in determining the body's ability to produce digestive enzymes. For instance, some individuals may have mutations that prevent their bodies from producing functional enzymes, maintaining adequate enzyme levels, or secreting these enzymes at the right time. When any or all of these enzymatic deficiencies occur, it can lead to improper digestion of food. As partially digested food makes its way through the digestive tract, it can begin to ferment. This is a common reason why individuals may experience gastrointestinal distress symptoms. Oftentimes, the same foods repeatedly trigger these symptoms and are recognized as food sensitivities or intolerances. Additionally, certain individuals may have food allergies or autoimmune reactions to specific foods and need to avoid them altogether. Accidental exposure to these foods is an ever present concern.



Recent research has shown that supplementing digestive enzymes alongside meals can help reduce or eliminate symptoms of gastrointestinal distress in response to food sensitivities and intolerances. For those that experience allergic or autoimmune reactions to certain foods, these digestive enzymes may help mitigate the severity of responses to accidental food exposures.¹⁻³ For individuals that experience uncomfortable or distressing digestive issues associated with food consumption, supplementing with digestive enzymes may help bridge the gap caused by genetic deficiencies.

EnzyGenic by Alimentum Labs is a broad-spectrum product designed to manage symptoms of gastrointestinal distress and discomfort associated with allergies, food sensitivities, or other gastrointestinal tract dysfunctions. EnzyGenic's formula contains a wide range of digestive enzymes that aid in metabolizing common food components responsible for gastrointestinal distress. Through therapeutic doses of potent enzymes that break down potential irritants like FODMAPs, gluten, lactose, fats, and proteins, EnzyGenic offers a natural solution that avoids the need for eliminating entire food groups. Furthermore, EnzyGenic supports access to a well-balanced lifestyle without having to sacrifice a diverse and nutritious diet.



Key Elements and Features of EnzyGenic

Reduce Gastrointestinal Distress Symptoms

Digestive enzymes provided by EnzyGenic play a crucial role in reducing gastrointestinal distress by enhancing the breakdown and absorption of nutrients in the digestive system. Insufficient digestive enzymes can result in partially digested food particles, leading to symptoms such as bloating, gas, and discomfort. Supplementing with digestive enzymes improves the efficiency of the digestive process, reducing the occurrence of undigested food in the gut. This efficiency alleviates common gastrointestinal issues by preventing gut bacteria from fermenting undigested food, which is a primary cause of gas and bloating.

Expand the Variety of Tolerable Food Groups

Supplementing with EnzyGenic's digestive enzymes can significantly enhance the ability to enjoy a wider variety of foods by aiding in the breakdown and absorption of nutrients. For individuals with enzyme deficiencies or digestive disorders, supplementing with these enzymes can alleviate symptoms such as bloating, gas, and discomfort that often occur after eating certain foods. This improved digestive efficiency allows them to tolerate foods that previously caused problems, such as dairy, gluten, or high-fiber vegetables, leading to a more balanced and enjoyable diet.

Support a Diverse Microbiome

EnzyGenic's digestive enzymes enhance gut microbial diversity by improving digestion and nutrient absorption. By breaking down complex food molecules, these enzymes reduce the burden on the digestive tract, preventing undigested particles from causing dysbiosis in the colon. Improved digestion ensures that beneficial bacteria receive necessary nutrients, thereby supporting a balanced and diverse gut microbiome crucial for overall health.

Destroy and Prevent Digestive Plaques

Supplementing with EnzyGenic's digestive enzymes helps break down digestive plaques, or biofilms, by targeting their structural components. Biofilms, which are often pathogenic and resistant to traditional treatments, consist of complex aggregations of microorganisms in a protective matrix. Digestive enzymes degrade this matrix, exposing the microorganisms to the body's immune system and antimicrobial agents. This process enhances nutrient absorption and promotes a healthier gut by reducing harmful microbes.



Gene Spotlight

Genetics can play a crucial role in digestive enzyme deficiencies, which can lead to improper digestion and gastrointestinal distress. Specific genetic mutations can result in the inadequate production or malfunction of digestive enzymes. Without sufficient enzyme activity, the body struggles to properly digest and absorb nutrients, resulting in symptoms like bloating, gas, diarrhea, and abdominal pain. Over time, these deficiencies can contribute to malnutrition and a compromised gut environment, exacerbating digestive issues and worsening overall health. EnzyGenic aims to bridge any genetic gaps in digestive enzyme production and function to support healthy digestion and prevent distressing gastrointestinal symptoms.

Genetic Interactions

LCT (Lactase) Gene

The *LCT* gene encodes the well-known lactase enzyme that helps break down the milk sugar, lactose. This is a gene that everyone has, but the majority of the world's human population slows and eventually stops the production of this enzyme as they age beyond childhood. This leads to an inability to digest lactose, resulting in uncomfortable and distressing symptoms after consuming dairy products, known as lactose intolerance. However, a past mutation that is present in about 30% of the current population, prevents this gene from being turned off. This mutation allows people to consume and digest dairy products readily without issue, a condition known as lactase persistence.^{1,4}

AMY1 (Amylase Alpha 1) Gene

The *AMY1* gene encodes the salivary amylase enzyme. This enzyme is primarily secreted in the mouth and helps to digest starches found in foods such as potatoes, bread, rice, pasta, and cereals. Amylase is secreted so abundantly in the mouth that it accounts for approximately half of the protein content of saliva.⁵

***LIPF* (Lipase F, Gastric Type) Gene**

The *LIPF* gene encodes the gastric lipase enzyme. Lipases are enzymes that break down fats and oils known as lipids. This particular form of lipase is secreted by specialized cells lining the stomach called gastric chief cells. This lipase enzyme aids in digesting a large portion of the dietary fats consumed in a healthy, balanced diet.⁶

***PGA5* (Pepsinogen) Gene**

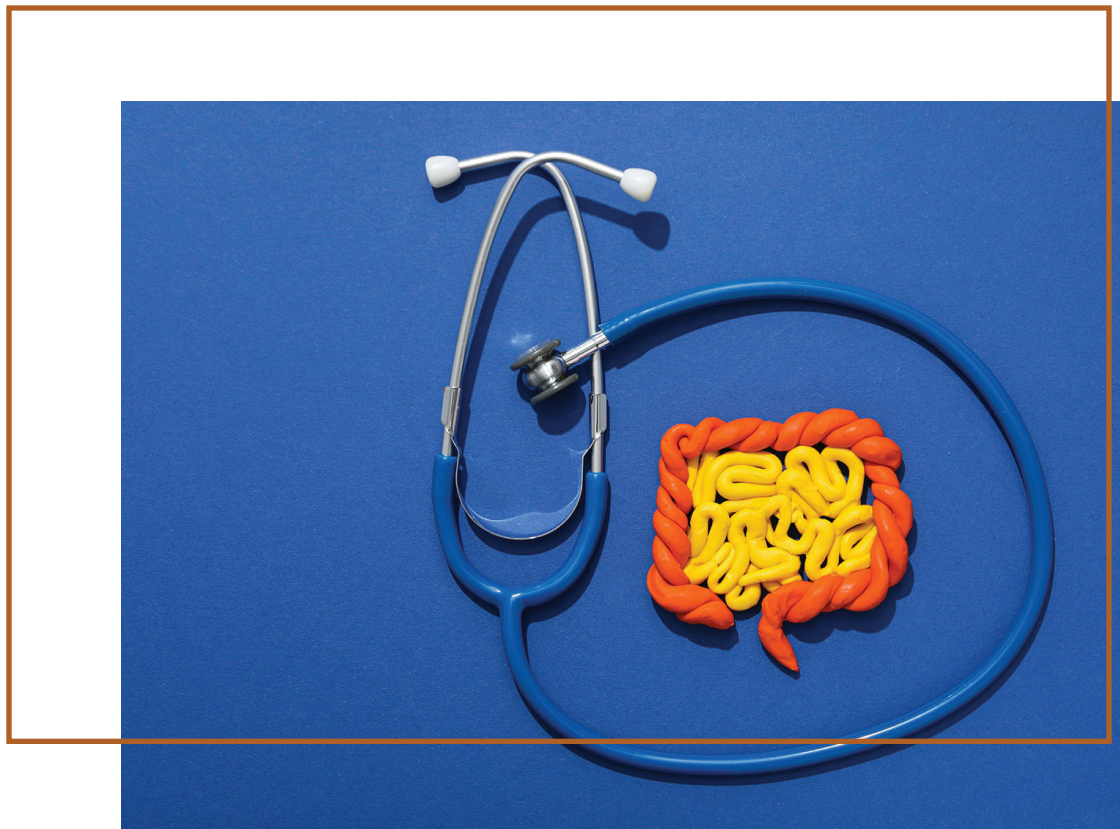
The *PGA5* gene encodes the pepsinogen enzyme. This enzyme is secreted from specialized cells in the stomach called gastric chief cells. While initially inactive, pepsinogen becomes active upon contact with stomach acid and is then referred to pepsin in its active form. Pepsin plays an important role in breaking down proteins, including partially digesting gluten proteins, which are a common gastrointestinal irritant.⁷

***PRSS1* (Trypsinogen) Gene**

The *PRSS1* gene encodes the trypsinogen enzyme, which is secreted by the pancreas in its inactive form. When trypsinogen reaches the small intestine it is converted to its active form, trypsin, by another enzyme called enterokinase. Trypsin aids in the breakdown of proteins and also activates other pathways that control bodily functions, such as blood pressure.⁸

How EnzyGenic Works

EnzyGenic provides a variety of digestive enzymes to prevent gastrointestinal distress caused by FODMAPs (fermentable oligosaccharides, disaccharides, monosaccharides, and polyols) and food intolerances. These enzymes aid in breaking down problematic foods that the body struggles to digest. Specific enzymes like lactase, alpha-galactosidase, and proteases target potentially irritating components in foods such as lactose, complex carbohydrates, and proteins, thereby reducing symptoms such as bloating, gas, and abdominal pain. Additionally, digestive enzymes can break down gastrointestinal biofilms, which are protective barriers formed by pathogenic microorganisms. By degrading the biofilm matrix, these enzymes expose underlying pathogens to the body's immune system and antimicrobial agents, helping clear infections and promoting a healthier gut environment. This dual action of enhancing food digestion and disrupting harmful biofilms helps alleviate gastrointestinal distress and improves overall digestive health.



Key Ingredients

Enzyme Blend

Lactase

Lactase is the enzyme that is responsible for breaking down the milk sugar lactose, which is also a common FODMAP. The ability to break down lactose beyond childhood, known as 'lactase persistence', is caused by a mutation that approximately 30% of the world's population possesses. This mutation allows your body to continue producing lactase enzymes into adulthood, rather than naturally reducing production around the time humans would evolutionarily stop relying on milk for sustenance. However, since not every individual maintains the ability to metabolize lactose, a majority of the population experiences some form of gastrointestinal distress, or lactose intolerance, during and/or after consuming dairy products. Supplementing with lactase enzymes alongside dairy consumption can help prevent uncomfortable symptoms associated with lactose intolerance.^{1,4}

Cellulase

Cellulases are enzymes that break down the molecule known as cellulose, which makes up the tough, protective layer around plant and bacterial cells. Humans don't naturally produce the cellulase enzyme, but recent research suggests that supplementing meals with cellulase enzymes may enhance food digestibility.^{9,10}

Beta-Glucanase

Beta-glucanase is an enzyme that breaks down beta-glucan, a soluble dietary fiber found in oats and barley that can be fermented by gut bacteria. Supplementing with beta-glucanase has been shown to improve the health of small intestine microstructures and support proper levels of bile acid to aid in digestion.^{11,12}

Xylanase

Xylanases are enzymes that break down the plant fiber xylan, a common FODMAP culprit that can lead to gastrointestinal distress. Consuming xylanase alongside meals can improve the digestibility of plant fibers and help prevent gastrointestinal distress.¹³

Pectinase

Pectinase refers to a group of enzymes that break down pectin and pectin-like molecules. Pectin is a soluble fiber commonly found in fruits, especially in apples, pears, oranges, and other citrus fruits. It is used in making jams and jellies to thicken them. Supplementing with pectinase can ensure proper digestion of plant fibers, which may help avoid gastrointestinal distress and stimulate the immune system.¹⁴

Phytase

Phytase degrades phytic acid in food. Phytic acid (phytate) is a known anti-nutrient, commonly found in grains, legumes, nuts, and seeds. While phytic acid is not harmful in moderate amounts, excessive consumption can interfere with the absorption of essential minerals like calcium, iron, and zinc in the digestive system. Phytase breaks down phytic acid into inositol and soluble phosphate, releasing the bound phosphorus and minerals, and reducing the inhibitory effect of phytic acid on mineral absorption. This enzymatic action makes the minerals bound to phytic acid more available for absorption, thereby improving overall nutrient bioavailability from plant-based sources.¹⁵

Bacterial Amylase

Multiple types of organisms produce amylase enzymes, which break down starch molecules. Although these enzymes serve the same function, they may be adapted to different environments, such as high heat or high levels of acidity and salt. *Bacillus* species of bacteria have long been utilized for their ability to produce heat-stable amylase enzymes. These enzymes can be safely consumed to help digest starches without concern that the enzymes may be destroyed.¹⁶

Amylase

Amylase is an enzyme that breaks down starch into a more digestible sugar, maltose. There is a significant amount of amylase activity in the mouth, which is why foods like bread and pasta may start to taste sweet when left in the mouth long enough. Amylase enzymes may not be active enough when naturally produced by the body, so supplementation may help with this deficit.¹⁷⁻¹⁹ An additional benefit of amylases is that they can help break up and prevent the formation of digestive plaques, also known as biofilms, caused by pathogenic bacteria such as *Escherichia coli*, *Staphylococcus aureus*, and *Pseudomonas aeruginosa*.²⁰

Alpha-Galactosidase

Alpha-Galactosidase is an enzyme that can remove galactose molecules from the ends of molecules where they may be attached. In a double-blind, placebo-controlled study, consumption of alpha-galactosidase after meals high in fermentable fibers resulted in a significant reduction in uncomfortable digestive symptoms such as bloating, gas, flatulence, diarrhea, and pain.^{2,21}

Invertase

Invertase is an enzyme that breaks down the sugar sucrose into its two components, glucose and fructose, aiding in the digestion and absorption of sugars in humans.²² When carbohydrates can't be digested effectively, it can lead to gastrointestinal distress and malabsorption of nutrients.²³ Maintaining optimal levels of invertase in the body helps prevent ulcer development and gastrointestinal distress. It may also help reduce the severity of gastrointestinal disorders.²²

Maltase

Maltase is an enzyme that breaks down maltose, a sugar composed of two bonded glucose molecules, into individual glucose molecules. Maltose belongs to a category of sugars called disaccharides, as it is composed of two glucose molecules. Disaccharides are one of the FODMAPs that are thought to cause gastrointestinal irritation, especially in high quantities.¹⁷

Diastase

Diastase refers to any of the three amylase enzymes (α -, β -, or γ -amylase) that break down starch molecules, which are just long chains of glucose molecules, into a more digestible sugar known as maltose. Consuming amylase along with meals can increase the nutrient availability of those foods.^{18,19}

Serratiopeptidase

Serratiopeptidase is a unique enzyme that has been shown to offer a multitude of benefits for the body. It breaks down peptides, which are similar to proteins, but much smaller. Research indicates that it can alleviate inflammation and disrupt biofilms in the gastrointestinal tract that may cause symptoms of gastrointestinal distress.²⁴

Peptidase

Peptidases are enzymes that break down peptides into amino acids, the basic building blocks of all proteins. Peptidase can break down gluten peptides, which are responsible for some food sensitivities and allergies. Recent research has investigated the usefulness of consuming various peptidases to help prevent reactions to gluten consumption. These studies show that peptidases can help avoid or reduce the reaction to accidental gluten consumption, especially in those who have gluten allergies.³

Acid Stable Protease

Acid-stable proteases are a specialized form of proteases that are not impaired or destroyed by acidic environments. This allows it to continue breaking down dietary proteins even in the presence of harsh acids like those found in the human stomach.²⁵

Bacterial Protease

All organisms produce proteases, and each organism produces proteases adapted to its specific environment. When supplementing digestive enzymes, it can be useful to use enzymes from organisms like beneficial bacteria or fungi. This allows enzymes like proteases to survive the harsh acids and heat produced by the body.²⁵

Lipase

The inability to metabolize dietary fats and oils, also known as lipids, can lead to gastrointestinal distress and nutrient deficiencies. While the body typically produces lipases, enzymes that break down lipids, on its own, there may not be enough lipases being produced naturally. Supplementing with lipase enzymes may help digest these nutrients and relieve the uncomfortable symptoms associated with excess lipids in the gastrointestinal tract.²⁶

Dipeptidyl Peptidase IV Blend

Protease

Proteases are a family of enzymes that break down proteins into peptides and further break down larger peptides into smaller ones. They play a critical role in the digestion of dietary proteins. Once the protease enzymes have done their job, the remaining peptides are then further digested by peptidases. An important characteristic of proteases is their ability to also break down harmful biofilms caused by pathogenic bacteria.^{20,27,28}

Glucoamylase

Glucoamylase is an enzyme that breaks down starches into individual glucose molecules. This process is crucial for extracting the proper nutrients from starches in foods and preventing excessive fermentation of starch in the lower gastrointestinal tract.²⁹

Bromelain

Bromelain is a type of protease enzyme derived specifically from pineapples that breaks down proteins. Dietary supplementation of bromelain has been shown to reduce gastrointestinal distress and inflammation.³⁰

Papain

Papain is a type of protease enzyme derived specifically from papaya that breaks down proteins. In a double-blind, placebo-controlled study, papaya and its enzymatic components, including papain, were shown to significantly relieve a wide variety of gastrointestinal distress symptoms and help reduce functional issues with digestion and bowel movements.³¹

Additional Ingredients

Rose Hips (Herb)

Rose hips are the accessory fruits of a flowering shrub, commonly known as dog rose, that have been used for many years in natural medicinal applications. They have been shown to improve inflammation and perceived pain, which may help relieve digestive discomfort. Rose hips may also combat infections of *Helicobacter pylori*, a bacteria that can infect the digestive tract and cause various complications like pain, inflammation, and even ulcers.^{32,33}

Leucine

Leucine is an essential amino acid that is found in high concentrations in foods such as meat, eggs, dairy, seeds, legumes, and spirulina. Supplementing with leucine supports the health and development of the small intestine. Additionally, it is reported that leucine may contribute to the digestibility of starches, which are common irritating FODMAPs.^{34–36}

Warnings/Contraindications

EnzyGenic should be used with caution by any individual who is currently pregnant, expecting to become pregnant, or have a diagnosed or suspected bleeding disorder. Consuming high levels of pineapple and/or bromelain has been linked to dangerous bleeding issues during pregnancy and in individuals with bleeding disorders. Consuming high levels of papaya (especially unripe or partially ripe) and/or papain may cause uterine contractions, pregnancy loss, and birth defects.

It is always recommended that you consult your practitioner prior to adding any new supplement to your regimen if you are pregnant, breastfeeding, experiencing renal failure, undergoing an organ transplant(s), managing diabetes with insulin, or are taking medication(s) for any pre-existing conditions.

Safety

All ingredients are tested before use for:

- Pathogenic microbial contaminants
- Heavy metals and/or chemical contaminants
- Purity

Additional Information

- Gluten Free
- Dairy Free
- Vegan
- No Sugar
- Non-GMO
- cGMP Facility
- No Egg



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