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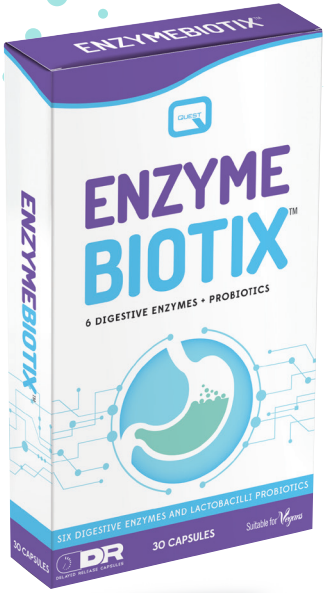
Biotix

ENZYMEBIOTIX

A unique and powerful combination of six digestive enzymes and three lactobacilli probiotic strains to aid digestion and for the relief of digestive discomfort, bloating and gas.



Nutritional Information

One capsule provides:

Papain (48,000 USP Units/g) 240 USP Units	5 mg
Amylase (40,000 SKB Units/g) 400 SKB Units	10 mg
Lipase (105,000 Lipase Units/g) 630 Lipase Units	6 mg
Bromelain (1,200 GD Units/g) 6 GD Units	5 mg
Lactase (10,000 ALU/g) 1000 ALU	100 mg
Alpha-Galactosidase (10,000 GALU/g) 150 GALU	15 mg
Lactobacilli Culture (Providing 8 billion ($8x10^9$) L.acidophilus, L.casei, L.rhamnosus)	14 mg

Take one capsule with each meal as required.

SUMMARY

- A double action combination of digestive enzymes and probiotics to aid with the breakdown of foods and to increase the bioavailability of nutrients.
- Contains a wide spectrum of enzymes for the breakdown of fats, proteins and carbohydrates, including lactose.
- Contains alpha-galactosidase for the breakdown of amylase resistant carbohydrates.
- Contains lactobacilli probiotic bacteria for increasing the bioavailability of nutrients, reducing gas production and for overall support of gut, digestive and bowel health

DESCRIPTION

A unique combination of six digestive enzymes and three lactobacilli probiotic strains to aid digestion and for the relief of digestive discomfort, bloating and gas. Papain, bromelain, amylase and lipase digest proteins, fats and carbohydrates. Alpha-galactosidase helps reduce bloating and gas by digesting amylase resistant carbohydrates. Lactase digests lactose found in milk and dairy. Lactobacilli probiotic bacteria support general digestive, bowel and intestinal health. EnzymeBiotix can help reduce the symptoms of compromised digestion, including indigestion and bloating, especially in seniors.

HOW DOES ENZYMEBIOTIX HELP TO DECREASE INTESTINAL GAS AND DISCOMFORT AND IMPROVE DIGESTION?

Digestive enzymes

Digestive enzymes are naturally secreted from the salivary glands, lingual glands, stomach, pancreas, liver, intestinal mucosa and microbiome. People with a reduced ability to produce enzymes (genetic predisposition, illness, injury, ageing, excessive exercise) may have difficulties in breaking down foods, resulting in many unpleasant symptoms of compromised digestion, including gas, bloating, cramping and diarrhoea.

EnzymeBiotix contains a broad spectrum of digestive enzymes including papain, amylase, lipase, bromelain, lactase and alpha-galactosidase.

Not all digestive enzyme formulas are equal however, and patients can still experience gastric symptoms from the inability to breakdown amylase resistant carbohydrates, which is why EnzymeBiotix also contains alpha-galactosidase, which is a newer generation of enzyme supplement.

Bromelain for the digestion of protein: Derived from pineapple, bromelain is a protease which breaks protein down into amino acids ready for absorption by the gut. One review of enzymes concludes that plant based enzymes such as bromelain are effective for the breakdown of proteins within the gut[1], thereby aiding the digestive process.

Papain for the digestion of protein: Papain, another proteolytic enzyme helps to breakdown dietary protein and tough meat fibres. Protease such as papain digest other organisms which are composed of protein, such as toxins from dead bacteria and other microorganisms. Deficiency of protease leads to protein intolerance.

Lipases for the digestion of fats: Lipase breaks neutral fats (triglycerides) into an alcohol (glycerol) and fatty acids. Pancreatic lipase, when adequate, aid in the digestion and emulsification of dietary fats and fat soluble vitamins[2].

Amylase for the digestion of carbohydrates: Amylase breaks carbohydrates down into disaccharides which are later converted into monosaccharides (simple sugars) such as glucose and fructose. These enzymes include lactase and alpha-galactosidase.

Lactase for the digestion of lactose found in dairy: Individuals with a deficiency of lactase, cannot breakdown lactose into its simpler forms, glucose and galactose. The undigested lactose will move from the small intestines to the colon and react with the bacteria present leading to formation of gases and organic acids resulting in diarrhoea and general distress in the lower intestines[3].

Lactase is produced naturally within the epithelial cells that line the digestive tract in infancy, and gradually declines from around the age of 5 years, leaving minimal lactase by adulthood (lactose non-persistence). Injury or inflammation of intestine may damage the epithelial cells rendering them unable to produce lactase[3].

Alpha-galactosidase for the digestion of complex carbohydrates: Alpha-galactosidase breaks down amylase resistant carbohydrates, glycolipids and glycoproteins (carbohydrate foods that are linked to fats or proteins) such as the complex carbohydrates and indigestible sugars found in legumes and cruciferous vegetables[4].

These carbohydrates usually escape digestion, meaning they are not absorbed into the blood. Consequently, bacteria in the lower intestinal tract ferment them to form large amounts of carbon dioxide and hydrogen, resulting in gas and bloating[5]. Supplemental alpha-galactosidase digests these sugars before they reach the intestine and eliminates their availability for fermentation and gas production.

A study looked at the breath hydrogen excretion and occurrence of bloating, abdominal pain, discomfort, flatulence, and diarrhoea over 8 hours in subjects who had taken either alpha-galactosidase or a placebo. The results were statistically significant showing a reduction of both breath hydrogen excretion and severity of flatulence with alpha-galactosidase. A reduction in severity was apparent for all considered symptoms, showing that alpha-galactosidase may be helpful in patients with gas-related symptoms[6].

Lactobacilli probiotic bacteria

Probiotics, an integral part of digestive health conduct many important roles within the digestive tract. Probiotics form a large part of the microbiome, and are part of the microbial barrier that lines the gut. Probiotics such as lactobacilli species play a role in increasing the bioavailability of nutrients by metabolism and from the many digestive enzymes that they secrete.

Improving peristalsis and gut transit: One of the nutrient conversions that happen in the gut with lactobacilli probiotics is the conversion of L-tryptophan into serotonin. This aids with the regulation of mood and appetite. Serotonin is also a major factor in the normalisation of gut motility. Studies conclude that altered serotonin signalling may be a direct cause of IBS[9]. Most of the body's serotonin is present in gastric neuroendocrine cells (enterochromaffin cells). Serotonin activates intrinsic and extrinsic neurons to initiate peristaltic reflexes[8].

Lactobacilli produce short chain fatty acids (SCFA). The most beneficial of which is butyrate, an important substance for maintaining the epithelium of colonic tissue[10]. SCFA help to regulate the integrity of the colonic epithelial barrier through the regulation of the tight junctions and plays a role in appetite regulation[11]. SCFA stimulate peristalsis and increases food transit time[12]. Decreased transit time and constipation may be responsible for bloating and uncomfortable digestion one review concluded[13].

Producing digestive enzymes: Probiotic bacteria produce many identified digestive enzymes, that complement our 20 indigenous enzymes. Lactobacilli helps with the digestion of lactose, so are recommended for anyone with lactose intolerance. A review demonstrated that lactose intolerant individuals who took Lactobacillus strains showed improved symptoms when ingesting dairy products[7]. There are 2 main causes of dysfunctional digestive health: a lack of enzymes naturally produced and a lack of probiotic bacteria. By targeting these two areas in an easy to take formula, the missing gaps to digestive health are being filled, promoting a natural increase in the digestion and metabolism of foods.

Decreasing small intestine bacterial overgrowth (SIBO): In the case of gas and bloating, SIBO is a possibility. There may be a bacterial overgrowth in the small intestines of certain gas producing pathogenic bacteria, causing the unpleasant symptoms very soon after eating. Lactobacilli cultures produce lactic acid which is beneficial to the pH of the gut, and allows other beneficial bacteria to thrive, helping to harmonize the balance of bacteria in the gut and decreasing gas production.

HOW SHOULD ENZYMEBIOTIX BE TAKEN?

Take one capsule with each meal, as required. Swallow with water.

ARE THERE ANY PRECAUTIONS BEFORE OR WHILE TAKING ENZYMEBIOTIX?

This product is intended exclusively for people seeking relief from digestive discomfort and is not suitable for:

- Pregnant and breastfeeding women;
- Children;
- Individuals with gastric ulcers.

WHAT ARE DRCAPS AND WHY ARE THEY NECESSARY?

DR caps (Delayed Releasing Capsules) are designed to delay the release of probiotic bacteria, protecting the probiotics from the stomach acidity and allowing probiotics to be most effective where they need to be – directly in the intestines.

FEATURES

- Combines 9 potent active ingredients in a unique specialist digestive support formula.
- With alpha-galactosidase for the breakdown of amylase resistant carbohydrates.
- DR Caps, a unique delayed release capsule shell that protects sensitive bacteria from stomach acid.
- Encapsulated individually and sealed to enhance stability.
- Refrigeration is optional.

HEALTH NEEDS

GUT AND DIGESTION

SENIOR'S HEALTH

SCIENTIFIC REFERENCES

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