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SPRINGS BIOTECHNOLOGY CO., LTD.
春泉生技開發股份有限公司

Product Technical Information Handbook V.1.1

Lohas Program

Vital Enzyme

Springs Bio Co., Ltd.
Unified Business Code: 27656141
No. 78, Lide Street, Zhonghe District, New Taipei City 235
TEL: 02-2228-8500
FAX: 02-2228-8528
http://www.springsbio.com

Description

Lohas Program - Vital Enzyme
Composition ABC probiotics, integrated vegetable and fruit enzyme powder, oat flour (β-Glucan), inulin, bilberry extract
Content 1 g, 60 capsules.
Advice on usage One capsule a day, before or after a meal; taking more does not help.
Primary Features and Purposes 1. Keeps intestines healthy 2. Boosts internal hygiene 3. Fights against oxidation and aging
Precautions 1. Keep in a place away from direct exposure to sunlight and high temperatures or humidity. 2. Use in pregnant or lactating women and children under the age of 3 is not recommended. 3. Consult a doctor and healthcare professional prior to use in someone with special disease or on medication.

Nutrition Facts		
Per serving		1 g (1 capsule).
This package contains		60 servings
	Per serving	Daily reference percentage per serving
Calories	3.9 Kcal	0 %
Protein	0.1 g	2 %
Fat	0.01 g	0 %
Saturated fat	0 g	0 %
Trans fat	0 g	*
Carbohydrates	0.9 g	0 %
Sugar	0.2 g	*
Dietary fiber	0.1 g	*
Na (sodium)	0 mg	0 %

Primary Composition and Features

ABC Probiotics

The Taiwan Association for Lactic Acid Bacteria, in 2005, authorized three well-known universities in Taiwan to jointly investigate the correlation of bowel movement habit and stress in life to intestinal age among elementary to senior high school students throughout Taipei County. There were up to 46% of elementary school students, 42% of junior high school students, and 56% senior high school students whose intestinal age was 10 years older than their actual age.

Long-term constipation is the source of all diseases and is also the root cause of various types of chronic diseases. Cancer tops the list of the Top 10 causes of death in Taiwan. Colorectal cancer, in particular, has been one of the Top 3. Many metabolism disorders are on the list, too. Modern people have undesirable dietary habits, live under great pressure, and their daily schedule is irregular. How to keep them healthy, which is the biggest immunity safeguard, is hence even more important.

Human intestines are home to several hundreds of bacteria. A normal flora inside the body consists of good and bad bacteria. Metabolites of good bacteria (such as lactic acid and acetic acid) help inhibit proliferation of bad bacteria and are helpful to a certain extent in keeping one healthy and modify intestinal flora. Physical discomfort, diet, and environmental changes, psychological stress, and aging, however, can all increase the number of bad bacteria to result in the collapse of a balanced bacterial flora inside the intestines to accordingly give rise to constipation and diarrhea.

This product is added with 7 types of highly active natural bacteria, including *Lactobacillus acidophilus (Bacteria A), Bifidobacterium lactis (Bacteria B), Bifidobacterium bifidum (Bacteria B)*、*Lactobacillus casei (Bacteria C), Lactobacillus rhamnosus, Lactobacillusplantarum, Lactococcus lactis, etc.*

Lactic acid bacteria are an important member of probiotics and its efficacy on human health includes:

(1) Regulating to keep the intestinal flora balanced and inhibiting the

proliferation of undesirable microorganisms in the intestines

(2) Exercising lactose enzyme hydrolysis to abate lactose intolerance

(3) Reinforcing congenital immunity, inhibiting pathogens, and boosting the devouring capability of cells

(4) Reducing cholesterol and creating joint sedimentation with debinding bile salt

(5) Binding to and eliminating toxins

(6) Inhibiting endogenous and exogenous pathogens to help prevent against and treat diarrhea

(7) Reducing the concentration of carcinogen-producing enzymes and reducing the incidence of colon cancer

(8) Balancing immune inflammatory response and reducing the incidence of allergy

Integrated vegetables and fruit enzyme

Enzyme is a healthy catalyst that takes part in all reactions occurring inside the body. Without enzymes, all internal reactions will no longer take place. From digestion to absorption and degradation of food, enzymes are needed. In addition, enzymes can repair cells. Unlike what a drug does, enzymes do not kill viruses directly; instead, they replenish internal cells with nutrients so that damaged cells receive more nutrition and by means of the spontaneous repairing mechanism, the body resumes health.

Dr. Edward, who is the authority in the research of enzymes in the US, believes that the total amount of enzyme that may be produced throughout the life of each person is fixed. Such total amount is referred to as the "potential enzyme". The length of a life is in an inverse relationship with the depletion ratio of the potential amount of enzyme inside the body. In other words, by supplementing dietary enzymes whenever possible, it helps reduce the depletion of potential enzyme.

The integrated vegetables and fruit enzyme consists of 26 types of vegetables and fruits that are naturally after-ripened and fermented and hence are rich in natural

vegetables and fruit nutrients, vitamins, and minerals to completely replenish nutrition. It also contains polyphenol and SOD Like to effectively fight against oxidation and aging and help eliminate toxins and waste.

√ **Reduce cardiovascular disease**

Polyphenolss are considered to be capable of reducing the incidence of cardiovascular disease because they have special biological activities, such as the anti-oxidation action and the ability to remove free radicals. By means of the anti-oxidation activity of polyphenols, the oxidation of LDL-C may be reduced and delayed and the incidence rates of hypoglycemia, inflammation, hypertension, cardiovascular disease, or cancer may be reduced, too.

√ **Anti-oxidation and anti-aging**

SOD Like is a superoxide dismutase (SOD) analog and a botanical small-molecule compound whose activity is similar to that of SOD. It is also referred to as the super anti-oxidant that can facilitate the synthesis of SOD inside the body. SOD Like has small molecules (with a molecular weight of around 400-600 units) and tends to be absorbed by the human body. In addition, it is acidity, alkalinity, and high-temperature tolerant and hence is very stable in the gastrointestinal tract; it is not easily damaged by the digestive enzyme and can effectively remove free radicals and negative ions inside the body to exercise the effect of anti-oxidation and anti-aging.

Oat powder (β-glucan)

Oat is known for its rich nutritional content. It is rich in Vitamin B complex, Vitamin E, folic acid, minerals, and water soluble dietary fibers. The primary ingredient of water soluble dietary fibers, in particular, is β-glucan, a polysaccharide that is hard to be digested and is present extensively in botanical fiber, grain bran, algae, mushroom, and

yest cell walls. The structure varies as the source is different. B-glucan from grains, such as oat and barley, primarily consists of the β-(1,3)(1,4) bond and that from mushrooms and yest of the (1,3)(1,6) bond. These structural differences have significant impacts on the activity of B-glucan, including the extent to which polysaccharide chains varying in length branch, the distribution of the molecular weight, the spiral structure, and soluble and insoluble properties.

√ **Regulates blood sugar**

B-glucan can inhibit the activity of amylase inside the body, increase the frequency and extent of motility of the smooth muscle in small intestines, protect islet beta cells, stimulate the secretion of insulin, promote the synthesis of liver and muscle glycogens, inhibit the activity of disaccharidase inside the intestines, relax the glycemic Index (GI), increase sense of saturation, reduce risks of developing obesity and diabetes.

√ **Brings down cholesterol in the blood**

B-glucan can form sticky solution to increase the viscosity of chyme in small intestines and to accordingly obstruct the gastrointestinal absorption of fat, cholesterol, and bile acid and increase their elimination; this hence reduce the synthesis of cholesterol inside the body. It helps keep the heart healthy and prevent against cardiovascular disease.

√ **Boosts gastrointestinal health**

Studies have revealed that oat β-glucan contributes to the proliferation of Bifidobacteria and Lactobacillus in the intestines and feces of mice and the inhibition of the proliferation of E. coli to improve the bowel environment. It can exercise the effect of prebiotics. In addition, β-glucan can increase intestinal motility, shorten the time needed for the feces to pass through the large intestine, increase the amount and

frequency of bowel movement, and reduce exposure of the intestinal linings to toxic substances to accordingly accomplish the efficacy of preventing against intestinal cancer.

Inulin

Inulin includes all the oligosaccharides and polysaccharides that are fructose-based and consisting of the β-(2,1) bond. The degree of polymerization (DP) of the fructose and glucose units in inulin, on the other hand, primarily is distributed in Units 2-60. The oligosaccharides obtained through partial enzyme hydrolysis of inulin are short-chain inulin (fructooligosaccharides). Some short-chain inulin has glucose as the terminal bond that has a DP below 10. The product of inulin with the short-chain ones removed is hence the long-chain inulin. All the long-chain inulin has glucose as the terminal bond, with a DP of 10 and above.

Studies have shown that inulin and fructooligosaccharides extensively exist in plants and they are water soluble dietary fibers. Many vegetables, fruits, and grains are rich in inulin, such as the chicory root, greater burdock, barley, wheat, rye, asparagus, onion, anada potato, garlic, and banana, among others.

Inulin added to this product are special dietary fibers varying in the DP. Detailed selection is performed by means of enzyme hydrolysis of chicory polysaccharides so that completely distributed products by their molecular size are presented from small (oligosaccharides) to large (polysaccharides) DPs. The good bacteria on the front end of human intestines take advantage of the short-chain inulin to go through quick fermentation while those on the back end use the long-chain inulin to make slow fermentation happen, which not only regulates the ecology of good bacteria but also boosts immunit and the prevention against intestinal cancer.

√ **Helps with growth of good bacteria in the intestines**

After having entered the human body, it is impossible for the inulin to be broken down by digestive enzymes; instead, it is fermented and broken down

Bifidobacterium longum contains inulinase that can break down inulin to generate gases and short-chain fatty acids such as acetic acid, propionic acid, and butyric acid and to bring down the pH value in the intestines so that the intestinal flora may grow and it helps boost intestinal health and inhibit the formation of cancer cells in the intestines.

√ **Increases calcium absorption**

Inulin can increase the absorption of calcium in the diet, boost bone mineralization, increase the content and density of minerals in the bones, and help prevent against osteoporosis.

Bilberry Extract

Vaccinium myrtillus, also known as European blueberry and bilberry, is a perennial Rhododendron evergreen bush that grows in the Rocky Mountain and Alpes at an altitude of 1500 to 2500 meters. Its primary place of origin includes the North Europe, the northern part of the United States, and Canada. Bilberry is a type of blue-purpose berry that are highly valuable in terms of its nutritional content. It is rich in various types of botanical flavone. It has been found through studies that a ripe bilberry contains more than 15 kinds of anthocyanin.

Anthocyanin is a biological flavone complex. Biological flavone does not contain a single ingredient; instead, it is the collective term of 500-plus compounds. These compounds form the colors of vegetables and fruits. Anthocyaninis a potent natural anti-oxidant that is around 50 times more capable than Vitamin E in fighting against oxidation. It can stop the destruction of cells by free radicals, inhibit the harm done by free radicals to the eyes, help maintain visual acuity and improve eye fatigue, and prevent against visual disorders such as cataract, macular degeneration, and diabetic retinal disease. In addition, anthocyanin can maintain normal cell linkage, vascular stability, and boost fine vascular circulation, enhance capillary and venous flows, and keep blood vessels healthy.

√ **Strengthening visual acuity**

The rhodopsin on the retina is the most fundamental substance for the eye to see images and is responsible for receiving light input and turning the light into neurological signals and sending them to the brain. With rhodopsin insufficiency, amblyopia and night blindness occur. The presence of anthocyanin, on the other hand, activates persistent regeneration of rhodopsin and reinforces sensitivity to dark and weak light. Therefore, it promotes visual acuity and enhances night vision.

√ **Promotes blood circulation**

By means of its own super powerful anti-oxidation, anthocyanin stabilizes phospholipids on the endothelial cells, protects arterial and venous cells so that they are not damaged by free radicals, and increases the synthesis of colloids and mucopolysaccharides in order to keep the arterial linings intact and to prevent against excessive concentration of the accumulation on the inner surface of platelets. It further attaches to the surface of the endothelium as protective measure to help improve vascular issues such as arteriosclerosis.

Advice on usage

Indication

- People who often eat out, with little ingestion of vegetables and fruits or fibers
- People with diarrhea and un-smooth bowel movement, among other gastrointestinal issues
- People who often stay up and have an irregular schedule, tend to feel tired easily, and are lacking energy

Suggested dosage

One to two capsules~~capsule~~ a day, before or after a meal; taking more does not help.

- **To correct gastrointestinal issues**: One capsule a day, before or after a meal.
- **For reinforced care**: It is advised to take one capsule after a meal in the morning and in the evening, respectively.

Contraindications and Side Effects

1. Due to the fact that the product is rich in dietary fibers (oat powder, inulin), additional supplementation of water is recommended in order to prevent against constipation.

Precautions

1. Keep in a place away from direct exposure to sunlight and high temperatures or humidity.
2. Use in pregnant or lactating women and children under the age of 3 is not recommended.
3. Consult a doctor and healthcare professional prior to use in someone with special disease or on medication.