

ORTHO BIOTIC



RECOMMENDED USE

- Source of probiotics
- Helps support intestinal/gastrointestinal health
- Could promote a favourable gut flora

GASTROINTESTINAL SUPPORT

Ortho Biotic is a new probiotic formula designed to deliver active organisms shown to promote healthy gut microflora, and support intestinal health. Included in this formula is *Saccharomyces boulardii*, an extensively researched microorganism shown to help restore microflora balance by enhancing commensal organism function. Each Ortho Biotic capsule provides seven proven probiotic strains chosen for their ability to withstand the harsh gastrointestinal (GI) environment and adhere to the intestinal tract.

Overview

The GI tract is a finely balanced environment where roughly 500 different strains of bacteria compete for space and nutrients. When there is a healthy balance (eubiosis), few symptoms exist. However, dysbiosis can occur when an overabundance of potentially harmful organisms prevail. The natural microflora balance can be upset by medications (such as antibiotics, oral contraceptives, etc.), excessive alcohol consumption, or poor dietary intake.

Probiotics have been extensively studied and are characterized as having broad GI benefits by increasing the population of healthy bacteria following microflora imbalance and are proposed to help in lactose digestion.¹ Being intestinal bacteria, their metabolism of undigested carbohydrates can produce short chain fatty acids which provides energy to the cells of the intestine.²

Because probiotics are live organisms, there are many challenges associated with manufacturing and distributing probiotic supplements. For a probiotic to be effective, it must

be shelf stable through the expiration date and precisely delivered to the intestinal tract, where it can have maximum benefit. BioShield technology is an innovative manufacturing process developed to ensure consistent and reliable results. The microorganisms in Ortho Biotic are protected, sealed and freeze dried away from moisture, heat, light and oxygen. This allows the bacteria to remain dormant until they are exposed to moisture in the GI tract. By utilizing advanced encapsulation technology, the probiotic organisms are preserved and released on-target for maximum benefit.

Lactobacillus acidophilus (La-14)

Lactobacillus acidophilus is a beneficial bacterial strain that is normally found in the intestinal tract and mouth and is commercially used in dairy products for the production of acidophilus-type yogurt. *L. acidophilus* ferments various carbohydrates to produce lactic acid, which increases the absorption and bioavailability of minerals. This includes calcium, copper, magnesium and manganese. The production of lactic acid also promotes health by creating an inhospitable environment for invading microbes.³ *L. acidophilus* has been shown to protect intestinal cells by competing for adhesion space in the gut against harmful bacteria. The *L. acidophilus* strain in Ortho Biotic has been specifically chosen because of its strong adherence and survival attributes in the GI tract.

Lactobacillus paracasei (Lpc-37)

Lactobacillus paracasei Lpc-37 is a gastric acid-resistant strain that has been shown to protect against the harmful effects of bacteria by colonizing the intestinal tract. *L. paracasei* Lpc-37

is a gastric acid-resistant strain and has been shown in vitro to withstand antibiotics such as Ciproflaxin and Vancomycin.⁴

Bifidobacterium lactis (BI-04)

Bifidobacterium lactis is predominantly found in the colon. Studies examining dietary supplementation with *B. lactis* have shown that it supports GI health by reducing intestinal permeability.⁵

Lactobacillus plantarum (Lp-115)

Lactobacillus plantarum is a beneficial bacteria commonly found in fermented foods including sauerkraut, pickles, brined olives and sourdough. *L. plantarum* has been found to compete against strains of *Clostridium difficile* and *Clostridium perfringens*, due to the production of bacteriocins (lethal proteins) that inhibit bacterial growth in experimental animal models.⁶

Lactobacillus rhamnosus (GG)

Lactobacillus rhamnosus has been proven to have remarkable survivability in the acid and bile environments in the GI tract. *L. rhamnosus* is particularly useful because of its ability to adhere to cells, enhance microflora balance, and inhibit pathogen adherence.

Saccharomyces boulardii

Saccharomyces boulardii is a probiotic yeast that was first isolated from the skin of the tropical fruits lychee and mangosteen in 1923 by French scientist Henri Boulard. *Saccharomyces boulardii* inhibits the growth of a number of microbial pathogens both in a culture and within a living organism, helping to promote a favourable gut flora and support gastrointestinal health.¹ *Saccharomyces boulardii* is also suggested to help protect against disease-causing strains of bacteria such as *Clostridium difficile* through degradation of the toxin receptors on the intestinal mucosa.¹

Recommended Dose

Adults and adolescents 13 years+: Take one capsule once per day. If you are on antibiotics or antifungals, take at least 2-3 hours before or after.

Medicinal Ingredients (per capsule)

<i>Lactobacillus acidophilus</i> (La-14).....	5.54 Billion CFU
<i>Lactobacillus paracasei</i> (Lpc-37).....	3.5 Billion CFU
<i>Bifidobacterium animalis subsp. lactis</i> (BI-04).....	2.44 Billion CFU
<i>Bifidobacterium bifidum</i> (Bb-06).....	3.6 Billion CFU
<i>Lactobacillus plantarum</i> (Lp-115).....	2.5 Billion CFU
<i>Lactobacillus rhamnosus</i> (GG).....	2.42 Billion CFU
<i>Saccharomyces boulardii</i> (Whole).....	3 Billion CFU

Non-Medicinal Ingredients

Microcrystalline cellulose, Magnesium stearate, Silicon dioxide, Hypromellose, Gellan gum.

Risk Information

Consult a health care practitioner if symptoms of digestive upset (e.g. diarrhea) occur, worsen, or persist beyond 3 days, (also discontinue use); and/or prior to use if you have fever, vomiting, bloody diarrhea or severe abdominal pain. Do not use this product if you have an immune-compromised condition (e.g. AIDS, lymphoma, patients undergoing long-term corticosteroid treatment).

To be sure this product is suitable/right for you always read and follow the label.

References

1. Rolfe RD. The role of probiotic cultures in the control of gastrointestinal health. Journal of Nutrition 2000; 130 (Supplement 2S):396S-402S.
2. Topping, David L., and Peter M. Clifton. "Short-chain fatty acids and human colonic function: roles of resistant starch and nonstarch polysaccharides." Physiological reviews 81.3 (2001): 1031-1064.
3. Lipski E. Digestive Wellness. New Canaan (CT): Keats Publishing; 1996. p. 60-61.
4. Danisco. *Lactobacillus paracasei* Lpc-37 probiotic identity card.
5. Schoster A, Kokotovic B, Permin A, Pedersen PD, Bello FD, Guarabassi L. In vitro inhibition of *Clostridium difficile* and *Clostridium perfringens* by commercial probiotic strains. Anaerobe. 2013 Apr; 20:36-41.
6. Chytilová M, Mudroňová D, Nemcová R, Gancarčíková S, Buleca V, Koščová J, Tkáčiková L. Anti-inflammatory and immunoregulatory effects of flax-seed oil and *Lactobacillus plantarum* - Biocenol™ LP96 in gnotobiotic pigs challenged with enterotoxigenic *Escherichia coli*. Res Vet Sci. 2013 Aug;95(1):103-9.

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