

Detox, Digestive & Immune Support*

Ortho Dophilus™

Description

Probiotic bacterial species are known to exist and thrive in the human digestive tract. These microorganisms assist in proper digestion, support detoxification, and are a necessary component of healthy immune system function. Ortho Dophilus™ is a combination of scientifically tested strains of beneficial bacteria with fructooligosaccharides (FOS) included to encourage their healthy growth.* This product is non-GMO, requires no refrigeration, and is enteric coated to ensure live delivery to the small intestine.

Features & Benefits

- Via support of healthy microbiota, promotes the digestive process by degrading indigestible sugars into lactic acid and volatile fatty acids*
- Participates in intestinal motility, as well as the secretion and absorption of nutrients*
- Supports the synthesis of B vitamins and vitamin K*
- Inhibits the proliferation and intestinal adhesion*
- Represents one of the key elements in the body's immune defense system and supports immune function*
- FOS serves a food source for healthful intestinal flora*
- Enteric coating prevents degradation by the stomach acid, ensuring live delivery to the small intestine*
- Supports intestinal health*

Suggested Usage

As a dietary supplement, take 1 Vcap® every five days with a meal or as directed by your health care practitioner.

Allergen Checklist

Contains no sugar, salt, starch, yeast, wheat, gluten, soy, milk, egg, shellfish or preservatives.



Technical Summary

Ortho Dophilus™ is a combination of eight different species of beneficial bacteria designed to support gastrointestinal health and immune system function. FOS is included to assist the growth of acidophilus and bifidus organisms.*

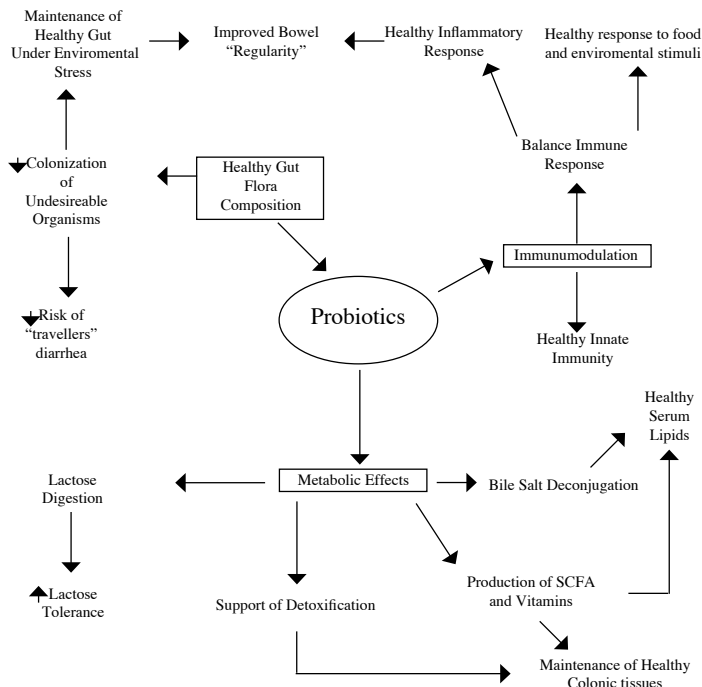
Mechanisms of Action

An enormous body of work suggests that probiotic bacteria can influence human health. Many mechanisms of action are involved.^{23,24} Among those proven and proposed are the following:

- Reduction in microbe growth Positively influences microbial balance - through the actions of bacteriocins and other similar components
- Colonization resistance - interference with affects the virulence of other organisms by commensal microbes, i.e., by microbes living in close proximity with us humans
- Immune effects - activation of host immune response mechanisms
- Adjuvant effects - influence on the interaction of antigens and antibodies in immune reactions
- Cytokine expression - influences on immune response signaling proteins
- Stimulation of phagocytosis by peripheral blood leucocytes - activation of the immune response in the first line immune defense
- Activates Secretory IgA - activation of a component of humoral immunity
- Antimutagenic effects - interference with DNA stability effects – Influences the actions of mutagens on the enterocyte and helps to maintain its cellular genetic stability
- Antigenotoxic effects - reductions in damage to the DNA Digestion effects - Assists in the digestion of certain foods such as dairy and soy
- Assists in detoxification mechanisms - Influence on cellular enzyme activity e.g., the antioxidant enzyme glutathione-S-transferase in gut cells*

Clinical Applications

Researchers have begun to look more closely at the combination of probiotic bacteria with various prebiotics, such as FOS, which are items ingested to encourage proper bacterial growth and actions in the GI-tract. These synbiotics can exhibit benefits not found with either probiotics or prebiotics taken alone. Ortho Dophilus™ is a combination of FOS with 8 different species of beneficial bacteria designed to support gastrointestinal health and immune system function. At certain times, such as following a bout of diarrhea, beneficial flora can become depleted. During these occasions, it may be especially beneficial to take probiotic supplements at the same time and to continue them for a couple of weeks after normal digestion resumes. This will help restore the balance of natural bacteria in the digestive tract.*



Health Benefits of Probiotic Consumption

FIGURE

Functions and health benefits of probiotics – figure from Saarela M, Lähteenmäki L, Crittenden R, Salminen S, Mattila-Sandholm T. Gut bacteria and health foods—the European perspective. *Int J Food Microbiol.* 2002 Sep 15;78(1-2):99-117.

Complementary Products

For general support of detoxification and elimination, use in conjunction with **ProtoClear™ (P5955)** and **Ortho Detox™ (P3281)**. For enhanced digestive support, use in conjunction with **BioCore™ Enhanced Enzymes (P2958)**. For immune modulation, use in conjunction with **Immune Renew™ (P3055)**.

Supplement Facts

P2912

Serving Size 1 Vcap®

Amount Per Serving

Blend of 8 Strains of Probiotic Bacteria	4.0 Billion Organisms
<i>Lactobacillus acidophilus</i>	1.2 billion
<i>Lactobacillus casei</i>	600 million
<i>Lactobacillus rhamnosus</i>	600 million
<i>Lactobacillus salivarius</i>	600 million
<i>Streptococcus thermophilus</i>	400 million
<i>Bifidobacterium bifidum</i>	200 million
<i>Bifidobacterium longum</i>	200 million
<i>Bifidobacterium lactis</i>	200 million

Other ingredients:

Cellulose (capsule), FOS (Fructooligosaccharides), Ascorbic Acid, Magnesium Stearate, Maltodextrin and Enteric Coating.

Contains trace amounts of soy protein (peptides) and lactose (milk). Does not contain milk protein.

Contains no salt, yeast, wheat, gluten, egg or preservatives.

Cautions/ Interactions

Antibiotic medications may reduce the efficacy of probiotic supplements.⁸⁻¹⁴ In addition, there may be some concern when using probiotic supplements in immuno-compromised individuals.¹⁵⁻¹⁹ A laboratory study suggests that *L. acidophilus* may affect the metabolism of sulfasalazine, a medication used to treat ulcerative colitis.²⁵ The significance of this information is unknown at this time.

Probiotic supplements may cause minor, temporary digestive disturbance in some individuals. In these cases reduce or discontinue use of this product until discomfort ceases, then gradually increase to full dose.

REFERENCES

- Kailasapathy K, Chin J. Survival and therapeutic potential of probiotic organisms with reference to *Lactobacillus acidophilus* and *Bifidobacterium* spp. *Immunol Cell Biol.* 2000 Feb;78(1):80-8. <http://www.ncbi.nlm.nih.gov/pubmed/10651933>
- Oelschlaeger TA. Mechanisms of probiotic actions - A review. *Int J Med Microbiol.* 2009 Sep 22. [Epub ahead of print] <http://www.ncbi.nlm.nih.gov/pubmed/19783474>
- de Roos NM, Katan MB. Effects of probiotic bacteria on diarrhea, lipid metabolism, ... a review of papers published between 1988 and 1998. *Am J Clin Nutr.* 2000 Feb;71(2):405-11. <http://www.ncbi.nlm.nih.gov/pubmed/10648252>
- Limdi JK, O'Neill C, McLaughlin J. Do probiotics have a therapeutic role in gastroenterology? *World J Gastroenterol.* 2006 Sep 14;12(34):5447-57. <http://www.ncbi.nlm.nih.gov/pubmed/17006980>

References continued on page 3

Formulated by doctors and clinical scientists exclusively for licensed healthcare practitioners. Manufactured in an A-rated Good Manufacturing (GMP) Certified facility.

PROTOCOL
FOR LIFE BALANCE™

Protocol For Life Balance™

Manufactured by NHG, Bloomingdale, IL 60108 Made in the U.S.A.

Toll Free 877.PROTO10 / Fax 800.886.1045 / www.protocolforlife.com

Healthy Patients, Satisfied Physicians™



*These statements have not been evaluated by the FDA. These products are not intended to diagnose, treat, cure or prevent any disease.

5. Fuchs S, Sontag G, Stidl R, Ehrlich V, Kundi M, Knasmüller S. Detoxification of patulin and ochratoxin A, two abundant mycotoxins, by lactic acid bacteria. *Food Chem Toxicol.* 2008 Apr;46(4):1398-407. <http://www.ncbi.nlm.nih.gov/pubmed/18061329>
6. Knasmüller S, Steinkellner H, Hirschl AM, Rabot S, Nobis EC, Kassie F. Impact of bacteria in dairy products and of the intestinal microflora on the ... effects of heterocyclic aromatic amines. *Mutat Res.* 2001 Sep 1;480-481:129-38. <http://www.ncbi.nlm.nih.gov/pubmed/11506806>
7. Daniel C, Poirer S, Goudercourt D, Dennin V, Leyer G, Pot B. Selecting lactic acid bacteria for their safety and functionality by use of a mouse colitis model. *Appl Environ Microbiol.* 2006 Sep;72(9):5799-805. <http://www.ncbi.nlm.nih.gov/pubmed/16957197>
8. *Bifidobacterium lactis* Bl-04 [No Authors Listed] 2008 Danisco Technical Memorandum.
9. *Bifidobacterium longum* Bl-05 [No Authors Listed] 2008 Danisco Technical Memorandum.
10. *Lactobacillus acidophilus* La-14 [No Authors Listed] 2008 Danisco Technical Memorandum.
11. *Lactobacillus casei* Lc-11 [No Authors Listed] 2008 Danisco Technical Memorandum.
12. *Lactobacillus rhamnosis* Lr-32 [No Authors Listed] 2008 Danisco Technical Memorandum.
13. *Lactobacillus salivarius* Ls-33 [No Authors Listed] 2008 Danisco Technical Memorandum.
14. *Streptococcus thermophilus* St-21 [No Authors Listed] 2008 Danisco Technical Memorandum.
15. Horwath CA, Furseth HA, Larson AM, Jones TL, Olliffe JF, Spach DH. Lactobacilemia in three patients with AIDS. *Clin Infect Dis.* 1995 Dec;21(6):1460-2. <http://www.ncbi.nlm.nih.gov/pubmed/8749632>
16. Bayer AS, Chow AW, Betts D, Guze LB. Lactobacilemia--report of nine cases. Important clinical and therapeutic considerations. *Am J Med.* 1978 May;64(5):808-13. <http://www.ncbi.nlm.nih.gov/pubmed/645745>
17. Land MH, Rouster-Stevens K, Woods CR, Cannon ML, Cnota J, Shetty AK. Lactobacillus sepsis associated with probiotic therapy. *Pediatrics.* 2005 Jan;115(1):178-81. <http://www.ncbi.nlm.nih.gov/pubmed/15629999>
18. Husni RN, Gordon SM, Washington JA, Longworth DL. Lactobacillus bacteremia and endocarditis: review of 45 cases. *Clin Infect Dis.* 1997 Nov;25(5):1048-55. <http://www.ncbi.nlm.nih.gov/pubmed/9402355>
19. Kaur IP, Kuhad A, Garg A, Chopra K. Probiotics: delineation of prophylactic and therapeutic benefits. *J Med Food.* 2009 Apr;12(2):219-35. <http://www.ncbi.nlm.nih.gov/pubmed/19459724>
20. Pan X, Wu T, Zhang L, Cai L, Song Z. Influence of oligosaccharides on the growth and tolerance capacity of lactobacilli to simulated stress environment. *Lett Appl Microbiol.* 2009 Mar;48(3):362-7. <http://www.ncbi.nlm.nih.gov/pubmed/19187509>
21. Hill MJ. Intestinal flora and endogenous vitamin synthesis. *Eur J Cancer Prev.* 1997 Mar;6 Suppl 1:S43-5. <http://www.ncbi.nlm.nih.gov/pubmed/9167138>
22. Saulnier DM, Kolida S, Gibson GR. Microbiology of the human intestinal tract and approaches for its dietary modulation. *Curr Pharm Des.* 2009;15(13):1403-14. <http://www.ncbi.nlm.nih.gov/pubmed/19442165>
23. Sanders ME. Considerations for use of probiotic bacteria to modulate human health. *J Nutr.* 2000 Feb;130(2S Suppl):384S-390S. <http://www.ncbi.nlm.nih.gov/pubmed/10721912>
24. Saarela M, Lähteenmäki L, Crittenden R, Salminen S, Mattila-Sandholm T. Gut bacteria and health foods--the European perspective. *Int J Food Microbiol.* 2002 Sep 15;78(1-2):99-117. <http://www.ncbi.nlm.nih.gov/pubmed/12222640>
25. Pradhan A, Majumdar MK. Metabolism of some drugs by intestinal lactobacilli and their toxicological considerations. *Acta Pharmacol Toxicol (Copenh).* 1986 Jan;58(1):11-5. <http://www.ncbi.nlm.nih.gov/pubmed/2869637>