

ImmunoBiotic Pro

Immunobiotic Regulator*

ImmunoBiotic Pro starts with *Lactobacillus rhamnosus* originally derived from a Russian fermented dairy source. As international probiotic expert Dr. Gregor Reid**, Professor of Microbiology and Immunology at The University of Western Ontario states: "If a person skilled in the art wanted to select a bacterium type that conferred many beneficial effects for humans, he/she would not need to look much further than *Lactobacillus rhamnosus*.* Found naturally in many different foods, including fermented dairy products, this species can be present in the healthy intestine and vagina.**"

Key Features

- May stimulate and support both the innate and adaptive immune system responses*
- Cell wall fragments work quickly to stimulate the immune system*



SKU #75300 • 60 vegetarian capsules
SKU #75670 • 200 vegetarian capsules

ImmunoBiotic Pro

Eastern European folk culture has long regarded cultured milk products as having immune-stimulating properties.* Dr. Ivan Bogdanov of Bulgaria found that lactobacilli could effectively stimulate both cellular and humoral immunity (Bogdanov et al. 1977), and since then, many lactobacilli and bifido species have demonstrated immune-supporting properties (Shimizu et al. 1981; Kato et al. 1984; Isolauri 2001; Caramia 2009).* In fact, some scientists now propose to rename probiotic bacteria as 'immunobiotics' (Clancy 2003).*

Lactobacillus rhamnosus has been shown to modulate and/or enhance immunity (Kim et al. 2006; Lorea Baroja et al. 2007; Sheih et al. 2001; Anukam et al. 2008; Ibrahim et al. 2010; Cai et al. 2010; Vizoso Pinto et al. 2009), and to strengthen intestinal immunologic barrier function and recruit neutrophils and macrophages (Górska et al. 2009; Seow et al. 2009; Gupta & Gorg 2009).* Lactobacilli can stimulate the innate immunity, the "first responder" in the immune system hierarchy, and can drive mucosal immune mechanisms that have effects beyond the gut (Clancy 2003; Pagnini et al. 2010).*

In order to allow the immune-active components, which are usually sequestered inside the cells, to have unimpeded access to trigger and magnify the immune system response, the *Lactobacillus rhamnosus* cells in ImmunoBiotic Pro are lysed (broken apart).* The ability of bacterial cell walls from Gram positive bacteria to stimulate and strengthen host immunity has been known for many years (Shimizu et al. 1981; Kato et al. 1984).* Sharpe and others have shown that lactobacilli cell walls contain teichoic acids and antigens (which can stimulate antibodies).*

Whole cells and cell wall fragments of *L. rhamnosus* have been shown to strengthen the host's immune defenses by various means (Chan et al. 1985; Reid et al. 1985; 1987; Bruce & Reid, 1988; McGroarty & Reid, 1988; Perdigon et al. 1999; Pessi et al. 1999; Wicken et al. 1983).* Although probiotics and cultured milk products have immune supporting properties, cell wall fragments appear to be much more powerful immune system stimulators.*

In general, lactobacillus cell-wall fragment materials have been used safely for many decades. ImmunoBiotic Pro is one of our most popular products, and has shown itself to be safe and very well tolerated.

"Dr. Reid is an independent academic scientist who receives no financial remuneration for use of the above statement. He is not a spokesperson for Allergy Research Group or its products.

ImmunoBiotic Pro

#75300 · 60 vegetarian capsules

#75670 · 200 vegetarian capsules

Supplement Facts

Serving Size	3 Capsules
Servings Per Container	20 (#75300), 66 (#75670)

Amount Per Serving	% Daily Value
<i>Lactobacillus rhamnosus</i> lysate powder	
75 mg	*

* Daily Value not established.

Other ingredients: Hydroxypropyl methylcellulose, microcrystalline cellulose, L-leucine.

Suggested Use: As a dietary supplement, 1 to 3 capsules one or two times daily, or as directed by a healthcare practitioner.

References:

- Bogdanov IG, Velichkov VT, Gurevich AI, Dalev PG, Kolosov MN. *Biull Eksp Biol Med.* 1977 Dec;84(12):709-12. Russian.
- Shimizu T, Mifuchi I, Yokokura T. *Chem Pharm Bull (Tokyo).* 1981 Dec;29(12):3731-4.
- Kato I, Yokokura T, Mutai M. *Microbiol Immunol.* 1984;28(2):209-17.
- Isolauri E. *Am J Clin Nutr.* 2001 Jun;73(6):1142S-1146S.
- Caramia G. *Minerva Gastroenterol Dietol.* 2009 Sep;55(3):237-72.
- Clancy R. *FEMS Immunol Med Microbiol.* 2003 Aug 18;38(1):9-12.
- Kim SO, Sheikh HI, Ha SD, Martins A, Reid G. *Cell Microbiol.* 2006 Dec;8(12):1958-71. Epub 2006 Aug 2.
- Lorea Baroja M, Kirjavainen PV, Hekmat S, Reid G. *Clin Exp Immunol.* 2007 Sep;149(3):470-9. Epub 2007 Jun 22.
- Sheih YH, Chiang BL, Wang LH, Liao CK, Gill HS. *J Am Coll Nutr.* 2001 Apr;20(2 Suppl):149-56.
- Anukam KC, Osazuwa EO, Osadolor HB, Bruce AW, Reid G. *J Clin Gastroenterol.* 2008 Mar;42(3):239-43.
- Górska S, Jarzab A, Gamian A. *Postepy Hig Med Dosw (Online).* 2009 Dec 23;63:653-67.
- Seow SW, Cai S, Rahmat JN, Bay BH, Lee YK, Chan YH, Mahendran R. *Cancer Sci.* 2010 Mar;101(3):751-8. Epub 2009 Nov 6.
- Gupta V, Garg R. *Indian J Med Microbiol.* 2009 Jul-Sep;27(3):202-9.
- Pagnini C, Saeed R, Bamias G, Arseneau KO, Pizarro TT, Cominelli F. *Proc Natl Acad Sci U S A.* 2010 Jan 5;107(1):454-9. Sharpe ME, Wheeler DM. *J Gen Microbiol.* 1957 Jun;16(3):676-9. Sharpe ME, Davison AL, Baddiley J. *J Gen Microbiol.* 1964 Feb;34:333-40.
- Chan RC, Reid G, Irvin RT, Bruce AW, Costerton JW. *Infect Immun.* 1985 Jan;47(1):84-9.
- Reid G, Chan RC, Bruce AW, Costerton JW. *Infect Immun.* 1985 Aug;49(2):320-4.
- Reid G, Cook RL, Bruce AW. *J Urol.* 1987 Aug;138(2):330-5. Bruce AW, Reid G. *Can J Microbiol.* 1988 Mar;34(3):339-43. McGroarty JA, Reid G. *Can J Microbiol.* 1988 Aug;34(8):974-8. Perdigon G, Vintiñi E, Alvarez S, Medina M, Medici M. *J Dairy Sci.* 1999 Jun;82(6):1108-14.
- Pessi T, Sütas Y, Saxelin M, Kallioinen H, Isolauri E. *Appl Environ Microbiol.* 1999 Nov;65(11):4725-8.
- Wicken AJ, Ayres A, Campbell LK, Knox KW. *J Bacteriol.* 1983 Jan;153(1):84-92.
- Ibrahim F, Ruvio S, Granlund L, Salminen S, Viitanen M, Ouwehand AC. *FEMS Immunol Med Microbiol.* 2010 Feb 11.
- Cai S, Bay BH, Lee YK, Lu J, Mahendran R. *FEMS Microbiol Lett.* 2010 Jan;302(2):189-96. Epub 2009 Nov 13.
- Vizoso Pinto MC, Rodríguez Gómez M, Seifert S, Watzl B, Holzapfel WH, Franz CM. *Int J Food Microbiol.* 2009 Jul 31;133(1-2):86-93.