

# MicroChitosan™

## Chitosan Oligosaccharide

**MicroChitosan™** contains **chitosan oligosaccharides** as well as a small amount of **chitosan**. Chitosan oligosaccharide has a much smaller molecular size than chitosan, and can absorb into the bloodstream. Both are derived from chitin, which is found in the exoskeletons of crustaceans such as shrimp, lobster or crab.



#55990  
60 vegetarian capsules

### Key Features

- May support enhanced detoxification of Herxheimer's reactions\*
- Promotes the growth of friendly bifidobacteria and lactobacilli\*
- Helps prevent lipid peroxidation, and promotes the activity of antioxidant enzymes\*
- Animal research suggests it may potentially have other detoxification activities\*



800.545.9960  
info@nutricology.com  
www.nutricology.com



Chitosan is an aminopolysaccharide that is chemically similar to cellulose. Chitosan oligosaccharides (CO) are manufactured from chitosan by an enzymatic process, resulting in a much smaller molecular size that is more easily absorbed by the body. Chitosan itself is more of a fiber and contributes to detoxification in the GI tract, whereas CO supports detoxification in blood and other tissues.\*

In a small clinical trial of people being treated for Borrelia and experiencing Herxheimer's reactions, MicroChitosan improved Herxheimer's symptoms by the end of one week.\* In subjects with pain, 100% reported significant improvement (in half of these, the pain completely resolved), and of those with sleep disturbances, 75% reported sleeping more deeply and waking up more well rested.\*

The research on chitosan oligosaccharides is extensive, and shows it has great potential to benefit health. Chitosan oligosaccharides can promote the growth of friendly bifidobacteria and lactobacillus. Unlike fructooligosaccharides (FOS), which promote the growth of only three probiotic strains, chitosan oligosaccharide supports many bifidobacteria and lactobacillus species.

Chitosan oligosaccharide has been shown to protect the liver from damage by carbon tetrachloride in mice, and to protect against mercury toxicity.\* It can promote the activity of antioxidant enzymes and help prevent lipid peroxidation, helping to protect mice poisoned with dioxin. It has also shown potential to support microbial balancing and other immune functions.\*

Investigated and utilized for many years by Akira Matsunaga, M.D., Ph.D., chitosan itself is considered a superior health substance in Japan, because it has a broad effect on all of the body's systems. Dr. Matsunaga found that it strengthened those who were weak, made healthy patients healthier, and improved common daily complaints and the quality of life.\* He found that chitosan did not target only one organ, but effectively supported the functioning of all of the body's systems and organs.\*

More in-depth discussions of both chitosan and chitosan oligosaccharide may be found in our July 2007 Nutricology In Focus Newsletter.

Both chitosan and chitosan oligosaccharide are extremely safe. Even at a chitosan oligosaccharide intake of 2000 mg/kg in rats, which extrapolates to more than 135,000 mg per day for an average-weight adult human, researchers could not find a potential adverse effect or toxicity.

## Supplement Facts

Serving Size 3 Capsules  
Servings Per Container 20

Amount Per Serving	% Daily Value
Proprietary Blend (Chitosan Oligosaccharide and Chitosan)(shrimp, crab, lobster)	1.8 g †
† Daily Value not established.	

Other ingredients: Hydroxypropyl methylcellulose, ascorbic acid, L-leucine.

**Suggested Use:** As a dietary supplement, 1 to 3 capsules daily on an empty stomach, or as directed by a healthcare practitioner.

**WARNING:** Avoid this product if you are allergic to shellfish, pregnant, or lactating. If used long-term, additional supplementation with fat soluble vitamins and essential fatty acids is recommended.

### References:

Lee HW, Park YS, Jung JS, Shin WS. Anaerobe. 2002 Dec;8(6):319-24.  
Yan Y, Wanshun L, Baoqin H, Bing L, Chenwei F. Hepatol Res. 2006 Jul;35(3):178-84. Epub 2006 May 26.  
Yoon HJ, Park HS, Bom HS, Roh YB, Kim JS, Kim YH. Arch Pharm Res. 2005 Sep;28(9):1079-85.  
Lee HW, Park YS, Choi JW, Yi SY, Shin WS. Biol Pharm Bull. 2003 Aug;26(8):1100-3.  
Shon YH, Park IK, Moon IS, Chang HW, Park IK, Nam KS. Biol Pharm Bull. 2002 Sep;25(9):1161-4.  
Moon JS, Kim HK, Koo HC, Joo YS, Nam HM, Park YH, Kang MI. Appl Microbiol Biotechnol. 2007 Mar 15; [Epub ahead of print]  
Kim SK, Park PJ, Yang HP, Han SS. 2001 Sep;51(9):769-74.  
Unpublished study, Steven W. Hines N.D., N.E., Hope Clinics International.  
Matsunaga A. Chitosan, The Ultimate Health Builder. Vintage Press, NY, NY, 1998.