## Beta 1,3 Glucan

## Immune and Cardiovascular support

## DESCRIPTION

Beta 1,3 Glucan, provided by Douglas Laboratories, provides 50 mg of the dietary fiber beta-glucan, i.e. repeating units of beta-D-glucose joined together in beta-(1®3) linkages.

## FUNCTIONS

Only recently has western science begun to investigate those mushrooms recognized through the millennia for their medicinal properties. Beta 1,3 glucans isolated from these medicinal mushrooms are thought to have a significant effect on the immune system's functionality. The beta glucans' modulation of the immune system may be mediated by altered activity of macrophages and $T$ cells, elicited by the production and expression of various cytokines. Research has shown that some of these medicinal mushrooms possess immunomodulatory properties that may provide improved functional defenses against microorganisms.

The glucose polymers of mushrooms have also been shown to promote the growth of beneficial, probiotic strains of intestinal bacteria. Dietary beta-glucans, e.g. from oat fiber, have been also been shown to improve lipid profiles related to cardiovascular health.

## INDICATIONS

Beta 1,3 Glucan capsules may be a useful dietary supplement for those who wish to improve the function of their immune system as well as that of their cardiovascular system.

## FORMULA (\#83901)

Each Capsule Contains:
Beta 1,3 Glucan 50 mg

## SUGGESTED USE

Adults take 1 capsule daily or as directed by physician.

## SIDE EFFECTS

No adverse effects have been reported

## STORAGE

Store in a cool, dry place, away from direct light. Keep out of reach of children.

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## REFERENCES

Borchers AT, Stern JS, Hackman RM, Keen CL, Gershwin ME. Mushrooms, tumors, and immunity. Proc Soc Exp Biol Med 1999;221:281-93.
Granfeldt Y, Hagander B, Bjorck I. Metabolic responses to starch in oat and wheat products. On the importance of food structure, incomplete gelatinization or presence of viscous dietary fibre. Eur J Clin Nutr 1995;49:189-99.
Guezennec CY, Serrurier B, Aymonod M, Merino D, Pesquies PC. Metabolic and hormonal response to short term fasting after endurance training in the rat. Horm Metab Res 1984;16:572-5.
Jaskari J, Kontula P, Siitonen A, Jousimies-Somer H, Mattila-Sandholm T, Poutanen K. Oat beta-glucan and xylan hydrolysates as selective substrates for Bifidobacterium and Lactobacillus strains. Appl Microbiol Biotechnol 1998;49:175-81.
Nicolosi R, Bell SJ, Bistrian BR, Greenberg I, Forse RA, Blackburn GL. Plasma lipid changes after supplementation with beta-glucan fiber from yeast. Am J Clin Nutr 1999;70:208-12.
Wasser SP, Weis AL. Therapeutic effects of substances occurring in higher Basidiomycetes mushrooms: a modern perspective. Crit Rev Immunol 1999;19:65-96.
Welch RW. Can dietary oats promote health? Br J Biomed Sci 1994;51:260-70.

## For more information on Beta 1,3 Glucan

Immune and Cardiovascular support, visit douglaslabs.com
$\dagger$ These statements have not been evaluated by the Food and Drug Administration.
This product is not intended to diagnose, treat, cure, or prevent any disease.

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