Barley Beta-Glucan with Glucagel™

**INGREDIENTS**

Glucagel™ is an all-natural soluble (1-3)(1-4) beta-glucan that is water extracted from natural hulless non-GMO barley grains. It contains high viscosity gelling beta-glucans. Beta-glucans from barley have been studied in-vivo, in-vitro and in laboratories analysis for over 50 years. Glucagel™ is high purity source of Beta-glucan with 75% fiber that is water-soluble. The soluble barley fibers when hydrated create a high viscosity trap for bile acids, fats, cholesterol and simple sugars by slowing their absorption in the body by removing a portion of these materials from the upper digestive tract. At the junction of small intestine and colon, healthy bacteria ferment the beta-glucan. This results in the short chain fatty acids being released causing satiety and boosts immune response.

The barley Beta-glucans in Glucagel™ are well known for their cardiovascular and glucose metabolism effects in the human diet. Less well known, yet equally important, are the functional effects of these remarkable natural polymers in enhancing immunity. Research has recently demonstrated that barley beta-glucan helps to support healthy immune performance both at the systemic and cellular levels. Beta-glucan is a potent stimulator of the immune system, via its ability to bind and activate specialized cells involved in immune response. These cells (macrophages and natural killer cells) operate over the entire body, as part of the humoral immune system. By activation of the immune response, beta-glucan boosts the body’s ability to fight infections.

**BENEFITS**

Helps boost immune system*
Helps stimulate activity of macrophages*
Helps stimulate white blood cells*

**How does it work?**

Barley has been an important part of human diets since prehistoric times, and has long provided a key source of soluble cereal beta-glucan fibers. In the body these non-digestible polysaccharides in Glucagel pass largely untouched through the small intestine (where nutrients are absorbed into the blood) and enter the colon. In the upper colon, healthy bacteria, such as bifidobacteria and lactobacillus, go to work fermenting them.

Higher molecular mass beta-glucan molecules are gradually broken down in this process resulting in Short Chain Fatty Acids (SCFAs) and low molecular weight beta-glucans. SCFAs are known to have a protective immunity effect in the colon, and are associated with decreasing the risks of colon cancer.

Many clinical trials focusing on the colon have confirmed that fiber has a preventative effect. In addition, epidemiology studies involving large numbers of people have shown a strong correlation between higher consumption of soluble cereal fibers (beta-glucan and similar fibers) and substantially lower incidence of colon cancers. There is also some evidence to suggest lower rates of breast cancer among women who are heavier consumers of cereal fibers.

Beta-glucan residuals of lower molecular mass can be taken up in a Peyer’s Patches (part of the lymphoid system) in the lower small intestine, where they become available to binding at glucan receptor sites CR3 on immune cells. The presence of beta-glucan does not per se change the action of a macrophage cell, except when the immune cell confronts a pathogen. In that circumstance, immune cells having beta-glucan in their receptors, show a substantially more vigorous response in reacting to a pathogen. As a result, the use of barley beta-glucan in boosting immune function is promising.

**Supplement Facts**

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<tr>
<th>Serving Size</th>
<th>1 veggie capsule</th>
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<tbody>
<tr>
<td>Servings per container</td>
<td>60 servings</td>
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<tr>
<th></th>
<th>Amount per serving</th>
<th>%Daily Value</th>
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<tr>
<td>Barley Beta-glucan (as Glucagel™)</td>
<td>250 mg</td>
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† Daily Value not established.

**Other Ingredients:** Modified cellulose (vegetarian capsule), microcrystalline cellulose, silicon dioxide, calcium stearate (vegetable source).

**Suggested Adult Use:** Take 1 capsule daily, with or without food, or as recommended by a nutritionally-informed physician.

**Non-GMO / Soy Free / Vegan**

Store in a cool dry place.

Glucagel™ is a trademark of DKSH Ltd.

* 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.

2. Understanding the Immune System. National Institute of Allergy and Infectious Diseases


5. Murphy, E Angela; Davis, J Mark; Carmichael, Martin D. Immune modulating effects of β-glucan. Current Opinion in Clinical Nutrition & Metabolic Care: November 2010 - Volume 13 - Issue 6 - p 656–661 Nutrition and physiological function: Edited by Labros S. Sidossis and Annemie Schols


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