

FIBERLEAN

**NORTH
CENTURY
PHARMACY**

Clinical Applications

- Supports Satiety*
- Supports Weight Control*
- Supports Glucose Metabolism*
- Supports Cholesterol Metabolism*
- Supports Healthy Bowel Movements*
- Serves as a Prebiotic for Intestinal Bacteria*

***FiberLean** features Shimizu Propol® A propolmannan—a highly pure, natural soluble fiber. Propol A is created from *Amorphophallus konjac*-derived glucomannan using proprietary processing techniques. This fiber has been studied for its viscosity and for its stability through the digestive tract; and studies support its health effects, such as on satiety, weight control, glucose and lipid metabolism, and bowel regularity.**

All North Century Pharmacy Formulas Meet or Exceed cGMP Quality Standards

Discussion

While a healthy diet and exercise are paramount to good health and maintaining healthy body composition, adding supplementary soluble fiber offers additional benefits. When selecting fiber, there are many aspects to review. Each fiber is unique in origin, purity, viscosity, and overall stability once ingested. In fact, even one type of fiber can vary greatly in quality. *Amorphophallus konjac*, a tuberous plant, is a rich source of the soluble fiber glucomannan. This fiber has an exceptional ability to absorb water and is one of the most viscous dietary fibers known.^[1]

Not All Glucomannans Are Created Equal

There are many aspects of glucomannan that affect end-product quality: the species of konjac used, the harvesting location, the time of harvesting, the production process, impurities (e.g., sulfites), viscosity, the response of the viscosity to different pH levels and temperatures, and hydration speed. For these reasons, finding the material with the most manufacturing and processing experience and scientific research behind it is important.^[1]

Propol® A Propolmannan

Shimizu Chemical Corporation is a pioneer in the world of dietary fiber and its health benefits. Using its vast knowledge—over 300 years of processing raw material (Japanese *Amorphophallus konjac* species) and extracting glucomannan—it has developed Propol A propolmannan, a highly purified glucomannan. Shimizu's unique and proprietary three-stage purification process is carried out in large-scale extraction plants and involves pulverizing the *Amorphophallus* tubers, collecting mannan-glucose particles, and polishing the particles in order to dislodge and extract noxious materials that adhere to them. With the use of cutting-edge technology, Propol A has been reduced to a special particle size that maximizes density while remaining in desirable viscous form. This process yields a pure, refined, high-performance *Amorphophallus* propolmannan that improves product solubility, stability, and overall functionality.^[1]

Viscosity, Stability Through the Digestive Tract

Viscosity is a physicochemical property of soluble fiber that reflects the fiber's ability to thicken as it mixes with fluid. Viscosity is a recognized factor affecting physiological responses to soluble fiber.^[2] Propol A features an extremely high viscosity (100,000 mPa·s), which is thought to contribute to its health benefits.^[1] Furthermore, as a benefit of its unique processing, Propol A remains intact in the digestive tract—another key factor in fiber functionality. Viscosity and stability, taken together, produce a highly effective material that, once in the digestive tract, attracts water and forms a viscous gel-like substance that slows digestion, delays the emptying of food from the stomach into the small intestine, slows down the influx of carbohydrates and fats into the bloodstream, binds to bile acids, and impedes dietary fat absorption.*^[3,4]

Satiety and Weight Control

Soluble fiber is known to act as a bulking agent in the stomach and intestine, which creates the signals of fullness and causes individuals to eat less.^[2,3,5,6] Studies suggest that glucomannan supplementation significantly reduces weight at doses of 3 g/d to 4 g/d when compared to placebo.^[3,4,7-11] In a randomized, double-blind, placebo-controlled study, the effects of 3 g/d of Propol (1 g 30-60 minutes prior to each meal) combined with 300 mg/d of calcium were studied. When dosing compliant and non-complaint subgroups were analyzed, the results indicated that compliant subjects experienced a significant reduction in scale weight, body fat percentage, and fat mass without a loss of fat-free mass or bone density.^[7] In another study, the mean weight loss for the glucomannan group was 5.5 lbs in eight weeks, while subjects in the placebo group gained 1.5 lbs.*^[3]

Glucose and Lipid Metabolism

Soluble fiber slows the absorption of carbohydrates, which influences the release of insulin and the rate of fat storage. Glucomannan studies have not only demonstrated a positive impact on postprandial glucose handling and glucose metabolism but also on cholesterol metabolism.^[3,4,7,10-13] This latter effect is thought to result from the fact that soluble fiber reduces fat and cholesterol absorption and carries bile out of the intestines.^[3,4] When fewer bile acids are available, the body draws cholesterol from the bloodstream to make more.*

Healthy Bowel Function, Prebiotic

Glucomannan not only allows more water to remain in the stool, thereby making waste softer, larger, and easier to pass through the intestines, but it is also an excellent prebiotic.^[15-17] In a placebo-controlled, randomized, parallel, double-blind, crossover trial, doses of 3 g/d and 4 g/d of glucomannan had a positive impact on intestinal habit (i.e., daily and weekly evacuations) and stool characteristics when compared to placebo.^[18] Glucomannan has also been shown to reduce mouth-to-cecum transit time compared to placebo.^[15] In other research, glucomannan improved defecation frequency, eased bowel movement, increased the fecal concentration of lactobacilli as well as the daily output of bifidobacteria, lactobacilli, and total bacteria. In addition, fermentation of glucomannan resulted in greater fecal acetate, propionate, and i-butyrate concentrations and lower fecal pH.*^[17]

***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.**

Distributed By: North Century Pharmacy
3058 Campbellsville Rd
Columbia, KY 42728

NORTH CENTURY
PHARMACY



FIBERLEAN

Supplement Facts

Serving Size: 6 Capsules
Servings Per Container: 30

	Amount Per Serving	%Daily Value
Dietary Fiber (from propolmannan)(<i>Amorphophallus konjac</i>)(tuber) ^{S1}	3 g	11%†

†Percent Daily Values are based on a 2,000 calorie diet.

Other Ingredients: Ascorbyl palmitate, capsule (hypromellose and water), microcrystalline cellulose, and silica.

S1. Propol[®] is a registered trademark of Shimizu Chemical Corporation.

Directions

Take three to six capsules once per day, or take three capsules 30 to 60 minutes before each of your two biggest meals, or use as directed by your healthcare professional.

Consult your healthcare professional prior to use. Individuals taking medication, especially hypoglycemic agents, should discuss potential interactions with their healthcare professional. Do not use if tamper seal is damaged.

References

1. Fiber Research International LLC. <http://www.fiberresearchinternational.com>. Web pages: Propol comparison to different glucomannans, manufacturing, and Propol comparison to other fibers. Published June 2015. Accessed November 20, 2015.
2. Kristensen M, Jensen MG. Dietary fibres in the regulation of appetite and food intake. Importance of viscosity. *Appetite*. 2011 Feb;56(1):65-70. [PMID: 21115081]
3. Walsh DE, Yaghoubian V, Behforooz A. Effect of glucomannan on obese patients: a clinical study. *Int J Obes*. 1984;8(4):289-93. [PMID: 6096282]
4. Doi K, Nakamura T, Aoyama N, et al. Metabolic and nutritional effects of long-term use of glucomannan in the treatment of obese diabetics. In: Oomura Y, Tarue S, Inoue S, Shimazu T, eds. *Progress in Obesity Research 1990*. London: John Libbey; 1991:507-14. [on file]
5. Keithley J, Swanson B. Glucomannan and obesity: a critical review. *Altern Ther Health Med*. 2005 Nov-Dec;11(6):30-34. [PMID: 16320857]
6. Burton-Freeman B. Dietary fiber and energy regulation. *J Nutr*. 2000 Feb;130(2S Suppl):272S-75S. [PMID: 10721886]
7. Kaats GR, Bagchi D, Preuss HG. Konjac glucomannan dietary supplementation causes significant fat loss in compliant overweight adults. *J Am Coll Nutr*. 2015 Oct 22;1-7. [PMID: 26492494]
8. Biancardi G, Palmiero L, Ghirardi PE. Glucomannan in the treatment of overweight patients with osteoarthritis. *Curr Ther Res*. 1989;46:908-12. [on file]
9. Reffo GC, Ghirardi PE, Forantini C. Glucomannan in hypertensive outpatients: pilot clinical trial. *Curr Ther Res*. 1988;44(1):22-27. [on file]
10. Salvatoni A, Bosetti G, Gambarini G. Lipid profile and excess body weight in obese children: effect of a dietary drug supplement (glucomannan vs detastranum). *Ped Oggi*. 1991;11:243-45. [on file]
11. Kraemer WJ, Vingren JL, Silvestre R, et al. Effect of adding exercise to a diet containing glucomannan. *Metabolism*. 2007 Aug; 56(8):1149-58. [PMID: 17618964]
12. Hopman WP, Houben PG, Speth PA, et al. Glucomannan prevents postprandial hypoglycaemia in patients with previous gastric surgery. *Gut*. 1988;29(7):930-34. [PMID: 2840365]
13. Vita PM, Restelli A, Caspani P, et al. Chronic use of glucomannan in the dietary treatment of severe obesity [in Italian]. *Minerva Med*. 1992 Mar;83(3):135-39. [PMID: 1313163]
14. Vuksan V, Jenkins DJ, Spadafora P, et al. Konjac-mannan (glucomannan) improves glycemia and other associated risk factors for coronary heart disease in type 2 diabetes. A randomized controlled metabolic trial. *Diabetes Care*. 1999 Jun;22(6):913-19. [PMID: 10372241]
15. Marzio L, Del Bianco R, Donne MD, et al. Mouth-to-cecum transit time in patients affected by chronic constipation: effect of glucomannan. *Am J Gastroenterol*. 1989 Aug;84(8):888-91. [PMID: 2547312]
16. Passaretti S, Franzoni M, Comin U, et al. Action of glucomannans on complaints in patients affected with chronic constipation: a multicentric clinical evaluation. *Ital J Gastroenterol*. 1991 Sep-Oct;23(7):421-25. [PMID: 1742540]
17. Chen HL, Cheng HC, Wu WT, et al. Supplementation of konjac glucomannan into a low-fiber Chinese diet promoted bowel movement and improved colonic ecology in constipated adults: a placebo-controlled, diet-controlled trial. *J Am Coll Nutr*. 2008 Feb;27(1):102-08. [PMID: 18460488]
18. Marsicano LJ, Berrizbeitia ML, Mondelo A. Use of glucomannan dietary fiber in changes in intestinal habit [in Spanish]. *G E N*. 1995 Jan-Mar;49(1):7-14. [PMID: 8566676]

Formulated To Exclude

Wheat, gluten, corn, yeast, soy, animal and dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, and artificial preservatives.

***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.**



NORTH CENTURY
PHARMACY

Distributed By: North Century Pharmacy
3058 Campbellsville Rd
Columbia, KY 42728

DRS-302

REV. 04/13/22