

FIT Food™ Lean Complete



Available in Chocolate & Vanilla

- Provides a source of protein which helps build and repair body tissues and assists in the building of lean muscle mass when combined with regular training and a healthy balanced diet
- Provides a source of amino acids involved in muscle protein synthesis
- Provides a source of antioxidants and digestive enzymes
- Provides a source of fiber to support good health

Discussion

VegaPro™, XYMOGEN's proprietary blend of highly digestible pea protein isolate, glycine, taurine, rice protein concentrate, and L-glutamine, is the cornerstone of FIT Food Lean Complete. Aminogen is added to enhance protein digestion and absorption.^[1] The combination of pea protein and rice protein achieves an amino acid score of 100% and supports protein metabolism and healthy body composition.*^[2]

Protein is required for cell and tissue repair, hormone and enzyme synthesis, and a variety of metabolic functions. It is especially important for maintaining lean body mass during increased physical activity. Protein supplementation has been found to be a determining factor in increasing fat-free mass and exercise-stimulated fat oxidation. Subjects who consumed a significantly higher protein intake (~80 g/d versus ~59 g/d) experienced a significant increase in fat oxidation and fat-free mass with a significant decrease in fat mass and body fat percentage.^[3] Studies have indicated that increased protein intake enhances satiety^[2,4-6] and supports diminished food intake during subsequent meals.^[7] One randomized crossover study suggested that pea protein was superior to milk protein with respect to satiety and intermeal interval.^[8] Research has also demonstrated that pea protein stimulates release of cholecystokinin and glucagon-like peptide 1, gastrointestinal hormones that modulate appetite sensations.*^[9]

While pea-based protein provides a satisfying and versatile source of protein, it also supports cardiovascular health. Animal studies have suggested that it positively affects lipid homeostasis by modulating gene expression; that is, upregulating genes that affect hepatic cholesterol uptake and downregulating genes that affect fatty acid synthesis.*^[10,11]

Artinia® Chitin-Glucan is incorporated into FIT Food Lean Complete to support antioxidant activity and cardiovascular health. Artinia is a purified, insoluble, gluten-free fiber ingredient composed of chitin (N-acetyl-D-glucosamine) and beta(1,3)-glucan chains.^[12] Artinia has been researched for its effects on maintaining oxidative balance and artery health, key components of cardiovascular health. A 12-week animal study indicated that chitin-glucan supports cardiovascular health by maintaining healthy arteries, reducing cardiac superoxide anion and liver malondialdehyde (markers of oxidation), and enhancing superoxide dismutase and glutathione peroxidase activity.*^[13]

Human trials have revealed significantly positive results as well. A six-week, multicenter, randomized, double-blind, placebo-controlled study (n = 130) of Artinia revealed that 1.5 g/d significantly supported subjects' LDL cholesterol at levels already within normal range, and 4.5 g/d significantly supported subjects' natural antioxidant systems and oxidative balance of LDL cholesterol.^[14,15] A 28-day pilot study found Artinia to be safe and well-tolerated at a dose of 4.5 g/d.^[16] FIT Food Lean Complete provides 2.25 g of Artinia per serving. Artinia is a healthy alternative to phytosterol supplementation and has not been observed to interfere with absorption of fat-soluble vitamins or antioxidants.*

Micronutrient Support FIT Food Lean Complete delivers a balanced profile of vitamins, minerals, and antioxidants, nutrients vital to supporting the vast array of metabolic processes in the body.^[17] B vitamins are present in their bioactive forms, including riboflavin 5'-phosphate, pyridoxal 5'-phosphate, methylcobalamin, and 5-methyltetrahydrofolate as Quatrefolic®.*^[18]

Fructose-Free FIT Food Lean Complete contains dried cane syrup and stevia in place of fructose. Animal and human research suggests that superfluous consumption of fructose increases visceral adiposity, disrupts lipid regulation, and elevates cardiometabolic risk.*^[19-23]

Glutamine The conditionally essential amino acid glutamine is important for replenishing amino acid stores, especially after exercise or stress.^[24] Glutamine also supports intestinal cell proliferation and thereby preserves gut barrier function and intestinal health.*^[25-27]

Inulin This soluble fiber is fermented by colonic bacteria into short-chain fatty acids that exert a positive effect on lipid metabolism and support healthy colon transit time.*^[28,29]

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FIT Food™ Lean Complete Chocolate

Medicinal Ingredients (2 scoops contains)

Vitamin A (Vitamin A palmitate)	140.8 mcg RAE (469 IU)
Beta carotene	843.6 mcg
Vitamin C (sodium ascorbate, potassium ascorbate, zinc ascorbate, calcium ascorbate)	125 mg
Vitamin E (d-alpha tocopheryl acid succinate, d-alpha tocopherol)	33.5 mg (50 IU)
Thiamine (thiamine mononitrate)	5 mg
Riboflavin (riboflavin 5'-phosphate sodium)	5 mg
Niacin	8 mg
Niacinamide	8 mg
Vitamin B6 (pyridoxal 5'-phosphate)	5 mg
Folate (as Quatrefolic® (6S)-5-methyltetrahydrofolic acid, glucosamine salt)	100 mcg
Vitamin B12 (as methylcobalamin)	125 mcg
Biotin	250 mcg
Pantothenic acid (calcium d-pantothenate)	50 mg
Calcium (DimaCal® di-calcium malate, calcium d-pantothenate, calcium ascorbate)	30 mg
Iodine (potassium iodide)	25 mcg
Magnesium (as Albion® di-magnesium malate)	25 mg
Zinc (as TRAACS® zinc bisglycinate chelate)	3.25 mg
Selenium (as Albion® selenium glycinate complex)	25 mcg
Manganese (as TRAACS® manganese bisglycinate chelate)	0.125 mg
Chromium (as TRAACS® chromium nicotinate glycinate chelate)	125 mcg
Molybdenum (as TRAACS® molybdenum (VI) bisglycinate chelate)	12.5 mcg
Vanadium (as TRAACS® vanadium HVP chelate)	182 mcg
Potassium (Albion® potassium glycinate complex)	24.75 mg
Choline (choline dihydrogen citrate)	9 mg
Inositol	9 mg
PABA (para-aminobenzoic acid)	3.25 mg
Artinia® Chitin-glucan (from <i>Aspergillus niger</i>)	2.25 g
Pea Protein (from <i>Pisum sativum</i> , seed)	14 g
Inulin (from <i>Cichorium intybus</i> , root)	4 g
Glycine	2 g
Aminogen® Fungal protease (from <i>Aspergillus flavus var. oryzae</i> and <i>Aspergillus niger</i>)	300 mg 15000 FCC HUT

Non-Medicinal Ingredients

Evaporated cane juice, sunflower oil, cocoa powder, natural flavors, medium-chain triglyceride oil, tripotassium citrate, taurine, carboxymethylcellulose, xanthan gum, rice protein concentrate, guar gum, silica, stevia leaf, L-glutamine.

Nutritional Information


	Amount per 2 Scoops
Calories	150
Total Fat	4 g
Saturated Fat 1.5 g	
Sodium 330 mg	
Potassium 330 mg	
Total Carbohydrate	14 g
Dietary Fiber 7 g	
Sugars 5 g	
Protein	15 g


Recommended Dose

Adults: Take two scoops once daily. Blend, shake or briefly stir two level scoops (41g) into 250 mL of chilled water. Take two hours before or after taking other medications or natural products since the absorption of these products may be delayed. For prolonged use, consult a healthcare practitioner.

Consult a healthcare practitioner prior to use if you are pregnant or breastfeeding, are taking sulfonamides, have diabetes, liver or kidney disease, have a gastrointestinal lesion/ulcer, are taking an anticoagulant/blood thinner or an anti-inflammatory, or are having surgery. Ensure that you drink enough fluid before, during and after exercise. Hypersensitivity (e.g., allergy) has been known to occur; in which case, discontinue use. May cause mild gastrointestinal discomfort. Do not use if tamper seal is broken or missing.

Does Not Contain: Wheat, gluten, yeast, soy protein, animal or dairy products, fish, shellfish, peanuts, tree nuts, egg, artificial colors, artificial sweeteners, or artificial preservatives.

 AMINOGEN® is a registered trademark of Innophos Nutrition, Inc. AMINOGEN® is protected under US patent 5,387,422.

 ARTINIA® is a registered trademark of Novus Nutrition Brands, LLC. Protected by US patent 7,556,946.

 DimaCal, TRAACS and the Albion Medallion design are registered trademarks of Albion Laboratories, Inc. Malates covered by U.S. Patent 6,706,904 and patents pending.

 Quatrefolic® is a registered trademark of Gnosis S.p.A. Produced under US patent 7,947,862.

FIT Food™ Lean Complete Vanilla

Medicinal Ingredients (2 scoops contains)

Vitamin A (Vitamin A palmitate)	140.8 mcg RAE (469 IU)
Beta carotene	843.6 mcg
Vitamin C (sodium ascorbate, potassium ascorbate, zinc ascorbate, calcium ascorbate)	125 mg
Vitamin E (d-alpha tocopheryl acid succinate, d-alpha tocopherol)	33.5 mg (50 IU)
Thiamine (thiamine mononitrate)	5 mg
Riboflavin (riboflavin 5'-phosphate sodium)	5 mg
Niacin	8 mg
Niacinamide	8 mg
Vitamin B6 (pyridoxal 5'-phosphate)	5 mg
Folate (as Quatrefolic® (6S)-5-methyltetrahydrofolic acid, glucosamine salt)	100 mcg
Vitamin B12 (as methylcobalamin)	125 mcg
Biotin	250 mcg
Pantothenic acid (calcium d-pantothenate)	50 mg
Calcium (DimaCal® di-calcium, calcium d-pantothenate, calcium ascorbate)	30 mg
Iodine (potassium iodide)	25 mcg
Magnesium (as Albion® di-magnesium malate)	25 mg
Zinc (as TRAACS® zinc bisglycinate chelate)	3.25 mg
Selenium (as Albion® selenium glycinate complex)	25 mcg
Manganese (as TRAACS® manganese bisglycinate chelate)	0.125 mg
Chromium (as TRAACS® chromium nicotinate glycinate chelate)	125 mcg
Molybdenum (as TRAACS® molybdenum (VI) bisglycinate chelate)	12.5 mcg
Vanadium (as TRAACS® vanadium HVP chelate)	182 mcg
Potassium (Albion® potassium glycinate complex)	24.75 mg
Choline (choline dihydrogen citrate)	9 mg
Inositol	9 mg
PABA (para-aminobenzoic acid)	3.25 mg
Artinia® Chitin-glucan (from <i>Aspergillus niger</i>)	2.25 g
Pea Protein (from <i>Pisum sativum</i> , seed)	14.7 g
Inulin (from <i>Cichorium intybus</i> , root)	4 g
Glycine	2 g
Aminogen® Fungal protease (from <i>Aspergillus flavus var. oryzae</i> and <i>Aspergillus niger</i>)	300 mg 15000 FCC HUT

Non-Medicinal Ingredients

Evaporated cane juice, sunflower oil, natural flavors, medium-chain triglyceride oil, tripotassium citrate, taurine, carboxymethylcellulose, xanthan gum, rice protein concentrate, guar gum, silica, L-glutamine, stevia leaf.

Nutritional Information

	Amount per 2 Scoops
Calories	160
Total Fat	4.5 g
Saturated Fat 2 g	
Sodium 330 mg	
Potassium 510 mg	
Total Carbohydrate	14 g
Dietary Fiber 7 g	
Sugars 5 g	
Protein	15 g

Recommended Dose


Adults: Take two scoops once daily. Blend, shake or briefly stir two level scoops (41g) into 250 mL of chilled water. Take two hours before or after taking other medications or natural products since the absorption of these products may be delayed. For prolonged use, consult a healthcare practitioner.

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Does Not Contain: Wheat, gluten, yeast, soy protein, animal or dairy products, fish, shellfish, peanuts, tree nuts, egg, artificial colors, artificial sweeteners, or artificial preservatives.

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References

1. Oben J, Kothari SC, Anderson ML. An open label study to determine the effects of an oral proteolytic enzyme system on whey protein concentrate metabolism in healthy males. *J Int Soc Sports Nutr.* 2008 Jul 24;5:10. [PMID: 18652668]
2. Westerterp-Plantenga MS, Lemmens SG, Westerterp KR. Dietary protein - its role in satiety, energetics, weight loss and health. *Br J Nutr.* 2012 Aug;108 Suppl 2:S105-12. Review. [PMID: 23107521]
3. Soenen S, Plasqui G, Smeets AJ, et al. Protein intake induced an increase in exercise stimulated fat oxidation during stable body weight. *Physiol Behav.* 2010 Dec 2;101(5):770-4. [PMID: 20826169]
4. Halton TL, Hu FB. The effects of high protein diets on thermogenesis, satiety and weight loss: a critical review. *J Am Coll Nutr.* 2004 Oct;23(5):373-85. Review. [PMID: 15466943]
5. Anderson GH, Moore SE. Dietary proteins in the regulation of food intake and body weight in humans. *J Nutr.* 2004 Apr;134(4):974S-9S. Review. [PMID: 15051857]
6. Veldhorst M, Smeets A, Soenen S, et al. Protein-induced satiety: effects and mechanisms of different proteins. *Physiol Behav.* 2008 May 23;94(2):300-7. Review. [PMID: 18282589]
7. Johnstone AM, Stubbs RJ, Harbron CG. Effect of overfeeding macronutrients on day-to-day food intake in man. *Eur J Clin Nutr.* 1996 Jul;50(7):418-30. [PMID: 8862477]
8. Diepvens K, Häberer D, Westerterp-Plantenga M. Different proteins and biopeptides differently affect satiety and anorexigenic/orexigenic hormones in healthy humans. *Int J Obes (Lond).* 2008 Mar;32(3):510-8. [PMID: 18345020]
9. Geraedts MC, Troost FJ, Tinnemans R, et al. Release of satiety hormones in response to specific dietary proteins is different between human and murine small intestinal mucosa. *Ann Nutr Metab.* 2010;56(4):308-13. [PMID: 20530962]
10. Rigamonti E, Parolini C, Marchesi M, et al. Hypolipidemic effect of dietary pea proteins: impact on genes regulating hepatic lipid metabolism. *Mol Nutr Food Res.* 2010 May;54 Suppl 1:S24-30. [PMID: 20077421]
11. Parolini C, Manzini S, Busnelli M, et al. Effect of the combinations between pea proteins and soluble fibres on cholesterolaemia and cholesterol metabolism in rats. *Br J Nutr.* 2013 Oct;110(8):1394-401. [PMID: 23458494]
12. Stratum Nutrition. Artinia™ technical data. <http://ckingredients.com/pdf/Products-Artinia.pdf>. Accessed April 24, 2014.
13. Berecochea-Lopez A, Decordé K, Ventura E, et al. Fungal chitin-glucan from *Aspergillus niger* efficiently reduces aortic fatty streak accumulation in the high-fat fed hamster, an animal model of nutritionally induced atherosclerosis. *J Agric Food Chem.* 2009 Feb 11;57(3):1093-8. [PMID: 19154104]
14. Bays HE, Evans JL, Maki KC, et al. Chitin-glucan fiber effects on oxidized low-density lipoprotein: a randomized controlled trial. *Eur J Clin Nutr.* 2013 Jan;67(1):2-7. [PMID: 22948945]
15. Effects of chitin-glucan on oxidized low-density lipoprotein (LDL). ClinicalTrials.gov, US National Institutes of Health Website. <http://clinicaltrials.gov/ct2/show/NCT01232309>. Updated October 22, 2012. Accessed April 22, 2014.
16. Deschamps A, Nolleaux G, Gautier S, et al. Managing oxidative stress with a vegetal ingredient, chitin-glucan. *Agrofood.* 2009;20(4):12-14. [on file]
17. Ames BN. A role for supplements in optimizing health: the metabolic tune-up. *Arch Biochem Biophys.* 2004 Mar 1;423(1):227-34. [PMID: 14989256]
18. Quatrefolic. <http://www.quatrefolic.com/>. Accessed April 22, 2014.
19. Stanhope KL, Schwarz JM, Keim NL, et al. Consuming fructose-sweetened, not glucose-sweetened, beverages increases visceral adiposity and lipids and decreases insulin sensitivity in overweight/obese humans. *J Clin Invest.* 2009 May;119(5):1322-34. [PMID: 19381015]
20. Pollock NK, Bundy V, Kanto W, et al. Greater fructose consumption is associated with cardiometabolic risk markers and visceral adiposity in adolescents. *J Nutr.* 2012 Feb;142(2):251-7. [PMID: 22190023]
21. Stanhope KL, Havel PJ. Fructose consumption: recent results and their potential implications. *Ann N Y Acad Sci.* 2010 Mar;1190:15-24. Review. [PMID: 20388133]
22. Stanhope KL, Havel PJ. Fructose consumption: considerations for future research on its effects on adipose distribution, lipid metabolism, and insulin sensitivity in humans. *J Nutr.* 2009 Jun;139(6):1236S-1241S. [PMID: 19403712]
23. Jürgens H, Haass W, Castañeda TR, et al. Consuming fructose-sweetened beverages increases body adiposity in mice. *Obes Res.* 2005 Jul;13(7):1146-56. [PMID: 16076983]
24. Castell L. Glutamine supplementation in vitro and in vivo, in exercise and in immunodepression. *Sports Med.* 2003;33(5):323-45. Review. [PMID: 12696982]
25. Chwals WJ. Regulation of the cellular and physiological effects of glutamine. *Mini Rev Med Chem.* 2004 Oct;4(8):833-8. Review. [PMID: 15544544]
26. McAnena OJ, Moore FA, Moore EE, et al. Selective uptake of glutamine in the gastrointestinal tract: confirmation in a human study. *Br J Surg.* 1991 Apr;78(4):480-2. [PMID: 1903318]
27. Souba WW, Klimberg VS, Plumley DA, et al. The role of glutamine in maintaining a healthy gut and supporting the metabolic response to injury and infection. *J Surg Res.* 1990 Apr;48(4):383-91. Review. [PMID: 2187115]
28. Roberfroid M. Dietary fiber, inulin, and oligofructose: a review comparing their physiological effects. *Crit Rev Food Sci Nutr.* 1993;33(2):103-48. Review. [PMID: 8257475]
29. Flamm G, Glinsmann W, Kritchevsky D, et al. Inulin and oligofructose as dietary fiber: a review of the evidence. *Crit Rev Food Sci Nutr.* 2001 Jul;41(5):353-62. Review. [PMID: 11497328]

Additional references available upon request

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