# FIT Food™ Lean Complete Sugar-& Stevia-Free





Available in 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 Sugar- & Stevia-Free. Aminogen is added to enhance protein digestion and absorption. <sup>[1]</sup> The combination of pea protein and rice protein achieves an amino acid score of 100% and supports protein metabolism and healthy body composition. \*<sup>[2]</sup>

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.<sup>[3]</sup> Studies have indicated that increased protein intake enhances satiety<sup>[2,4-6]</sup> and supports diminished food intake during subsequent meals.<sup>[7]</sup> One randomized crossover study suggested that pea protein was superior to milk protein with respect to satiety and intermeal interval.<sup>[8]</sup> Research has also demonstrated that pea protein stimulates release of cholecystokinin and glucagon-like peptide 1, gastrointestinal hormones that modulate appetite sensations.\*<sup>[9]</sup>

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]

**Chitin-Glucan** is incorporated into FIT Food Lean Complete Sugar- & Stevia-Free to support antioxidant activity and cardiovascular health. This purified, insoluble, gluten-free fiber ingredient composed of chitin (N-acetyl-D-glucosamine) and beta(1,3)-glucan chains 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 chitinglucan 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. A 12-12-13 in the support of the superoxidase activity.

Human trials have revealed significantly positive results as well. A six-week, multicenter, randomized, double-blind, placebo-controlled study (n = 130) revealed that 1.5 g/d of chitin-glucan 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.<sup>[13]</sup> FIT Food Lean Complete Sugar- & Stevia-Free provides 2.25 g of chitin-glucan per serving.\*

**Micronutrient Support** FIT Food Lean Complete Sugar- & Stevia-Free delivers a balanced profile of vitamins, minerals, and antioxidants, nutrients vital to supporting the vast array of metabolic processes in the body. <sup>[14]</sup> B vitamins are present in their bioactive forms, including riboflavin 5'-phosphate, pyridoxal 5'-phosphate, methylcobalamin, and 5-methyltetrahydrofolate as Quatrefolic®.\*\*<sup>[15]</sup>

**Sugar- and Stevia-Free** This formula is sweetened with monk fruit extract in place of sugar or stevia. Animal and human research suggests that superfluous consumption of added sugars increases adiposity, disrupts lipid regulation, and elevates cardiometabolic risk.\*[16-20]

**Glutamine** The conditionally essential amino acid glutamine is important for replenishing amino acid stores, especially after exercise or stress.<sup>[21]</sup> Glutamine also supports intestinal cell proliferation and thereby preserves gut barrier function and intestinal health.\*[22-24]

**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.\* $^{(25,26)}$ 

### FIT Food™ Lean Complete Sugar- & Stevia-Free Vanilla

#### Medicinal Ingredients (2 scoops contains)

| Vitamin A (Vitamin A palmitate)  | 140 8 mca RAF (469 III) |
|--|-------------------------|
| Beta carotene  | . ,                     |
| Vitamin C (sodium ascorbate, potassium ascorbate, zinc ascorbate, calcium asc                        |                         |
| Vitamin E (d-alpha tocopheryl acid succinate, d-alpha tocopherol)                                    | ,                       |
| Thiamine (thiamine mononitrate)  | • , ,                   |
| Riboflavin (riboflavin 5'-phosphate sodium)  |                         |
| Niacin   | •                       |
| Niacinamide  | •                       |
| Vitamin B6 (pyridoxal 5'-phosphate)  | •                       |
| Folate (as Quatrefolic® (6S)-5-methyltetrahydrofolic acid, glucosamine salt)                         | •                       |
| Vitamin B12 (as MecobalActive™ methylcobalamin)  | •                       |
| Biotin   | -                       |
| Pantothenic acid (calcium d-pantothenate)  | -                       |
| Calcium (DimaCal® di-calcium malate, calcium d-pantothenate, calcium ascorb                          | •                       |
| lodine (potassium iodide)  |                         |
| Magnesium (as Albion® di-magnesium malate)   | -                       |
| Zinc (as TRAACS® zinc bisqlycinate chelate)  | -                       |
| Selenium (as Albion® selenium glycinate complex)   | •                       |
| Manganese (as TRAACS® manganese bisglycinate chelate)  | •                       |
| Chromium (as TRAACS® chromium nicotinate glycinate chelate)  |                         |
| Molybdenum (as TRAACS® molybdenum (VI) bisglycinate chelate)   |                         |
| Vanadium (as TRAACS® vanadium HVP chelate)   |                         |
| Potassium (Albion® potassium glycinate complex)  |                         |
| Choline (choline dihydrogen citrate)   | •                       |
| Inositol   | •                       |
| PABA ( <i>para</i> -aminobenzoic acid)   |                         |
| KiOtransine® Chitin-qlucan (from Aspergillus niger)  | •                       |
| Pea Protein (from <i>Pisum sativum</i> , seed)   | •                       |
| Inulin (from <i>Cichorium intybus</i> , root)  | -                       |
| Glycine  | -                       |
| Aminogen® Fungal protease (from <i>Aspergillus flavus</i> var. oryzae and <i>Aspergillus niger</i> ) |                         |
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|  | -                       |

#### Non-Medicinal Ingredients

Taurine, rice protein concentrate, L-glutamine, natural flavors, sunflower oil, medium-chain triglyceride oil, carboxymethylcellulose, xanthan gum, guar gum, monk fruit extract.

| Nutritional Information | Amount per 2 Scoops |
|-------------------------|---------------------|
| Calories                | 140                 |
| Total Fat               | 5 g                 |
| Saturated Fat 2.5 g     |                     |
| Sodium 300 mg           |                     |
| Potassium 510 mg        |                     |
| Total Carbohydrate      | 11 g                |
| Dietary Fiber 8 g       |                     |
| Protein                 | 15 g                |

#### Recommended Dose

Adults: Take two scoops once daily. Blend, shake or briefly stir two level scoops 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 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.

Storage: Keep tightly closed in a cool, dry place out of reach of children.

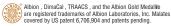
Does Not Contain: Wheat, gluten, yeast, soy protein, animal or dairy products, fish, shellfish, peanuts, tree nuts, egg, artificial colors, artificial sweeteners, or artificial preservatives.

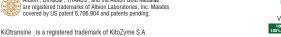




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AMINOGEN is protected under US patent 5,387,422.







## References

- 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]
- 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]
- 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]
- 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]
- 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]
- 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]
- 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]
- 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]
- 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. 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]
- 13. 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. [doi:10.1038/eicn.2012.1211
- 14. 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]
- 15. Quatrefolic. http://www.quatrefolic.com/. Accessed January 24, 2017
- 16. Stanhope KL, Schwarz JM, Keim NL, et al. Consuming fructose-sweetened, not glucosesweetened, 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]
- 17. 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):251-57. [PMID: 22190023]
- 18. 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]
- 19. 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]
- 20. DiNicolantonio J.J. Berger A. Added sugars drive nutrient and energy deficit in obesity: a new paradigm. Open Heart. 2016 Aug 2;3(2):e000469. [PMID: 27547437]
- 21. Castell L. Glutamine supplementation in vitro and in vivo, in exercise and in immunodepression. Sports Med. 2003;33(5):323-45. Review. [PMID: 12696982]
- 22. Chwals WJ. Regulation of the cellular and physiological effects of glutamine. Mini Rev Med Chem. 2004 Oct;4(8):833-8. Review. [PMID: 15544544]
- 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):480-82.
- 24. 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]
- 25. 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]
- 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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