

# LIFECORE™ COMPLETE CHOCOLATE



## CLINICAL APPLICATIONS

- Supports Healthy Body Weight and Metabolism
- Promotes a Feeling of Fullness and Reduces Cravings
- Provides a Diverse Blend of Clean, Plant-Based Nutrition
- Promotes Healthy GI and Immune Function

## ESSENTIAL NUTRITION

LifeCORE™ Complete is a balanced nutritional shake, free from classic allergens, such as gluten, soy, dairy, and does not contain fructose or any genetically-modified foods. It provides a diverse blend of pure plant proteins combined with other essential nutrients and fiber to create a complete source of balanced daily nutrition.

Just one serving of LifeCORE™ Complete provides 20 g of high-quality protein, sourced from organic brown rice, legumes (peas), and potato proteins. The unique complex of vegetable-based protein has a well-balanced amino acid profile including a high content of lysine, arginine, and branched chain amino acids.

LifeCORE™ Complete suits all lifestyles and weight management goals, delivering the preferred ratio of protein, carbohydrates and fat necessary for a balanced diet in two delicious flavors: rich dark chocolate or creamy vanilla. LifeCORE™ Complete is specially formulated to curb cravings, maintain glycemic balance and help individuals on specialty diets easily adhere to their prescribed meal plan.

### Overview

LifeCORE™ Complete is a comprehensive nutrition source that includes an ideal balance of organic brown rice, pea and Solathin™ potato proteins. These proteins have been shown to support satiety naturally by increasing cholecystokinin (CCK) and glucagon-like peptide-1 (GLP-1). CCK and GLP-1 are well-known satiety hormones that aid the body in decreasing food intake and signaling increased satiety to the brain. These proteins support satisfaction and maintenance of normal blood sugar levels after eating.<sup>1-3</sup>

Carbohydrates are the body's preferred fuel source, making this macronutrient essential to a well-balanced diet. However, the type, quantity and metabolic impact of carbohydrate intake is imperative to achieving balance and reaching wellness goals. LifeCORE™ Complete provides low-impact carbohydrates balanced with fiber, protein and healthy fats, like olive oil, to fuel the body and maintain optimal health. Olive oil has been shown to not only support heart health and healthy regulation of cholesterol levels, but the omega-3 rich oil helps support satiety as well. Researchers have found that olive oil consumption has a direct impact on blood sugar levels – reducing the amount of glucose absorbed from the blood into the liver cells.<sup>4</sup>

### Nutrients

#### Pea Protein†

Pea protein was chosen to comprise the plant protein sources of LifeCORE™ Complete because it showed the strongest effects on CCK release compared to other dietary proteins, in an intestinal cell model.<sup>1</sup> In healthy subjects, pea and wheat protein are the most potent stimulators of CCK and GLP-1 release in human duodenal tissue and therefore may be good dietary additives in weight management.<sup>2</sup> Further studies on the effect of pea protein on satiety hormone release showed an increase in the level of CCK, comparable to the effect of whey protein.<sup>3</sup>

#### Rice Protein†

Rice protein is a valuable source of branched chain amino acids leucine, isoleucine and valine. These amino acids reduce the breakdown of protein and stimulate protein synthesis. In animal

† 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.

studies, rice protein was shown to support strong heart function, healthy cholesterol levels and insulin sensitivity, reducing the negative impact of the Western diet fed to these animals.<sup>5-7</sup>

### Potato Protein<sup>†</sup>

Solathin™ brand potato protein is a chosen ingredient in LifeCORE™ Complete because it is a compilation of low molecular weight amino acids, including a potent satiety inducing factor called proteinase inhibitor II (PI2). Proteinase inhibitor II, is a heat-stable protein derived from potatoes that is reported to reduce appetite and food intake by promoting the release of the satiety hormone, CCK, when taken before a meal.<sup>8-10</sup>

### L-Carnitine Tartrate<sup>†</sup>

L-carnitine increases the flow of free fatty acids into the mitochondria of each cell directly boosting energy production. When key micronutrients are combined with a therapeutic amount of L-carnitine, the mixture can be used as a high octane fuel supplement to enhance mitochondrial energy production and produce clinically significant results. In animal models, L-carnitine has been shown to be effective for supporting cardiac performance, healthy cholesterol levels, carbohydrate and muscle metabolism, cognitive function and a reduction in fatigue.<sup>11-14</sup>

### Taurine<sup>†</sup>

Taurine is a key ingredient in LifeCORE™ Complete as it enhances function at a cellular level and although it is produced in the body, consumption is essential to maintaining adequate levels. Taurine is a sulfur-containing amino acid that is not incorporated into proteins. It is found in very high concentrations in the heart and retina of the eyes where it serves as a potent antioxidant to protect these delicate tissues.<sup>15</sup> In human and animal studies, taurine supplementation is shown to support healthy blood pressure levels and positive physiological functioning of the heart.<sup>16-19</sup>

### Organic Flax Seed Flour<sup>†</sup>

Alpha-linolenic acid (ALA) is an omega-3 fatty acid found in flax seeds shown to support healthy heart function.<sup>20-21</sup> Flax seeds are also a source of fiber and lignans. Lignans support safe estrogen metabolism in both men and women.<sup>22</sup>

### Olive Oil Powder<sup>†</sup>

Olive oil is a known source of bioactive compounds that support optimal health. Olive oil extracts have been shown to support heart health, healthy cholesterol levels and promotes a healthy cycle of inflammation.<sup>24-25</sup> Recent studies have even found olive oil to support healthy weight management.<sup>4</sup>

### Larch Arabinogalactan (Fiber Aid™) <sup>†</sup>

Larch arabinogalactan is a source of dietary fiber, and has been approved as such by the FDA. This fiber aid was selected as an ingredient in LifeCORE™ Complete due to its immune-enhancing properties that suggest an array of clinical uses, both in promoting GI health, as well as its ability to support a more responsive immune system. Arabinogalactan has been shown to prime the immune system, increase natural killer cell activity and support the body during immune challenges.<sup>25</sup>

### Directions

Mix 1-2 scoops (23.5-47 grams) of this product with 8 oz of water or the beverage of your choice, one daily or as recommended by your health care professional.

### Does Not Contain

Gluten, yeast, artificial colors and flavors.

### Cautions

If you are pregnant or nursing, consult your physician before taking this product

Supplement Facts <sup>v5</sup>		
Serving Size 2 Scoops (65.5 Grams)		
Servings Per Container 14		
2 scoops contain	Amount Per Serving	% Daily Value
Calories	270	
Calories from Fat	60	
Total Fat	6 g	9%*
Saturated Fat	1.5 g	8%*
Total Carbohydrate	32 g	11%*
Dietary Fiber	4 g	16%*
Sugars	10 g	**
Protein	20 g	40%*
Vitamin C (As Ascorbyl Palmitate)	100 mg	167%*
Calcium	60 mg	6%
Iron	6 mg	33%
Sodium	340 mg	14%
<b>Proprietary Blend</b>	23.3 g	
Pea Protein Concentrate (Nutralys®)		**
Rice Protein (ORYZAPRO)		**
Potato Protein Extract (SolaThin™)		**
Flaxseed Flour (Organic)	4.5 g	**
Virgin Olive Oil	2 g	**
Larch Arabinogalactan (FiberAid™)	1 g	**
Alpha Linolenic Acid (from Organic Flaxseed Flour)	900 mg	**
L-Carnitine L-Tartrate	500 mg	**
Medium Chain Triglycerides	500 mg	**
Taurine	500 mg	**

\* Percent Daily Values are based on a 2,000 calorie diet.  
\*\* Daily Value not established

### LifeCORE™ Complete Chocolate

ID# 929001 658 Grams (23.2 Oz)

ID# 929032 Shaker 32.75 Grams (1.2 oz)

<sup>†</sup> 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.

## References

1. Geraedts MC, Troost FJ, Fischer MA, Edens L, Saris WH. Direct induction of CCK and GLP-1 release from murine endocrine cells by intact dietary proteins. *Mol Nutr Food Res*. Mar 2011; 55(3):476-484.
2. Geraedts MC, Troost FJ, Tinnemans R, Soderholm JD, Brummer RJ, Saris WH. 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):308-313.
3. Deremaux L, Wils D. Nutraly's Pea Protein on Satiety Hormone Release in Rats. *Nutritional Study Abstract*. 2010; 6(18).
4. Schieberle P, Somoza V, Rubach M, Scholl L, Balzer M; Identifying substances that regulate satiety in oils and fats and improving low-fat foodstuffs by adding lipid compounds with a high satiety effect; Key findings of the DFG/AiF cluster project. Perception of fat content and regulating satiety: an approach to developing low-fat foodstuffs; 2009-2012.
5. Ni W, Tsuda Y, Takashima S, Sato H, Sato M, Imaizumi K. Anti-atherogenic effect of soya and rice-protein isolate, compared with casein, in apolipoprotein E-deficient mice. *Br J Nutr*. Jul 2003; 90(1):13-20.
6. Ronis MJ, Chen Y, Bradeaux J, Shankar K, Badger TM. Diets containing soy or rice protein isolate (SPI, RPI) increase insulin sensitivity and improve lipid homeostasis in weanling rats fed high fat, high cholesterol Western diets as a result of activation of PPAR and LXR-mediated pathways. *The FASEB Journal*. 2008; 22:892.892.
7. Ronis MJ, Badeaux J, Chen Y, Badger TM. Rice protein isolate improves lipid and glucose homeostasis in rats fed high fat/high cholesterol diets. *Exp Biol Med (Maywood)*. Sep 2010; 235(9):1102-1113.
8. Schwartz JG, Guan D, Green GM, Phillips WT. Treatment with an oral proteinase inhibitor slows gastric emptying and acutely reduces glucose and insulin levels after a liquid meal in type II diabetic patients. *Diabetes Care*. Apr 1994; 17(4):255-262.
9. Spreadbury D, Shao A, Essman M, Sheabar F, Geletta S, Larsen B. A proteinase inhibitor extract from potatoes reduces postprandial blood glucose in humans. *JANA*. 2003; 6:29-38.
10. Komarnytsky S, Cook A, Raskin I. Potato protease inhibitors inhibit food intake and increase circulating cholecystokinin levels by a trypsin-dependent mechanism. *Int J Obes (Lond)*. Feb 2011; 35(2):236-243.
11. Lopaschuk G. Regulation of carbohydrate metabolism in ischemia and reperfusion. *Am Heart J*. Feb 2000; 139(2 Pt 3):S115-119.
12. Malaguarnera M, Cammalleri L, Gargante MP, Vacante M, Colonna V, Motta M. L-Carnitine treatment reduces severity of physical and mental fatigue and increases cognitive functions in centenarians: a randomized and controlled clinical trial. *Am J Clin Nutr*. Dec 2007; 86(6):1738-1744.
13. Malaguarnera M, Vacante M, Avitabile T, Cammalleri L, Motta M. L-Carnitine supplementation reduces oxidized LDL cholesterol in patients with diabetes. *Am J Clin Nutr*. Jan 2009; 89(1):71-76.
14. Wall BT, Stephens FB, Constantin-Teodosiu D, Marimuthu K, Macdonald IA, Greenhaff PL. Chronic oral ingestion of L-carnitine and carbohydrate increases muscle carnitine content and alters muscle fuel metabolism during exercise in humans. *J Physiol*. Feb 15 2011; 589(Pt 4):963-973.
15. Taurine - monograph. *Altern Med Rev*. Feb 2001; 6(1):78-82.
16. Militante JD, Lombardini JB. Treatment of hypertension with oral taurine: experimental and clinical studies. *Amino Acids*. 2002; 23(4):381-393.
17. Ahn CS. Effect of taurine supplementation on plasma homocysteine levels of the middle-aged Korean women. *Adv Exp Med Biol*. 2009; 643:415-422.
18. Xu YJ, Arneja AS, Tappia PS, Dhalla NS. The potential health benefits of taurine in cardiovascular disease. *Exp Clin Cardiol*. Summer 2008; 13(2):57-65.
19. Schaffer SW, Jong CJ, Ramila KC, Azuma J. Physiological roles of taurine in heart and muscle. *J Biomed Sci*. 2010; 17 Suppl 1:S2.
20. de Lorgeril M, Renaud S, Mamelle N, et al. Mediterranean alpha-linolenic acid-rich diet in secondary prevention of coronary heart disease. *Lancet*. Jun 11 1994; 343(8911):1454-1459.

21. Brouwer IA, Katan MB, Zock PL. Dietary alpha-linolenic acid is associated with reduced risk of fatal coronary heart disease, but increased prostate cancer risk: a meta-analysis. *J Nutr.* Apr 2004; 134(4):919-922.
22. Brooks JD, Thompson LU. Mammalian lignans and genistein decrease the activities of aromatase and 17 beta-hydroxysteroid dehydrogenase in MCF-7 cells. *J Steroid Biochem Mol Biol.* 2005;94(5):461-467.
23. Sola R, Fito M, Estruch R, et al. Effect of a traditional Mediterranean diet on apolipoproteins B, A-I, and their ratio: a randomized, controlled trial. *Atherosclerosis.* Sep 2011; 218(1):174-180.
24. Murie-Fernandez M, Irimia P, Toledo E, et al. Carotid intima-media thickness changes with Mediterranean diet: a randomized trial (PREDIMED-Navarra). *Atherosclerosis.* Nov 2011; 219(1):158-162.
25. Kelly GS. Larch arabinogalactan: clinical relevance of a novel immune-enhancing polysaccharide. *Altern Med Rev.* 1999; 4(2):96-103.