

DAIRY-FREE SUPPORT FOR OPTIMIZING MUSCLE MASS & FUNCTION

Decreased muscle mass (sarcopenia) has a profound effect on quality of life, influencing a wide range of health parameters far beyond the obvious loss of strength and balance which signal the condition. In practice, sarcopenia lies at the heart of many chronic issues facing today's patient, including decreased insulin sensitivity and energy production.

- Helps promote and maintain healthy muscle tissue.*
- Research-based formula provides full-spectrum macronutrients, activated vitamins, Albion® minerals & key specialty ingredients.*
- Features dairy-free organic Yellow Pea protein, L-Leucine and advanced absorption Meriva® curcumin phytosome.*

By helping promote muscle synthesis and optimize muscle mass and function, the ingredients in SarcoSelect® DF can help to promote positive clinical outcomes in individuals with sub-optimal muscle mass, regardless of the patient's chief complaint.

SarcoSelect® DF is an original, cutting edge formula: a macronutrient-based, functional food rich in quality plant-based organic yellow pea protein and leucine plus bioavailable micronutrients and anti-inflammatory compounds. This research-based formula is intended to help optimize muscle physiology in patients with declining lean body mass.

Provided in a low-glycemic natural vanilla flavor, SarcoSelect® DF can be mixed simply with water, almond milk, other plant milk or beverage of choice, or blended with fruits to create a tasty shake. Depending on patient needs, SarcoSelect® DF may be used as

a meal replacement, a snack, or a pre/post-workout beverage. Consuming SarcoSelect® DF along with a high protein-containing meal, pulse-feeding style, may yield the best anabolic results according to research.

Our original SarcoSelect® formula, which contains whey protein, was developed based on compelling research published in *Clinical Nutrition* by Nicholas E.P. Deutz et al in 2011. The Deutz paper describes the results of a randomized, double blind study in which ingestion of a complete, balanced functional food beverage containing additional whey protein plus extra leucine *significantly stimulated muscle protein synthesis in resting patients*, while a standard functional food beverage—without added protein and leucine—had no effect on the synthesis of muscle protein in resting patients. Sarco Select® DF replaces the whey protein in the original formula with pea protein, making this dairy free (DF) version suitable for use by dairy-sensitive individuals.

(continued on reverse side)

Supplement Facts

Serving Size: 40.6 grams (approx. 1 scoop)
Servings Per Container: 14

	Amount Per Serving	% Daily Value†		Amount Per Serving	% Daily Value†
Calories	130		Magnesium (as Magnesium Bisglycinate Chelate) (Albion®)	150 mg	36%
Total Fat	4.5 g	5%	Zinc (as Zinc Bisglycinate Chelate) (Albion®)	2.5 mg	23%
Saturated Fat	2 g	10%	Selenium (as Selenium Glycinate Complex) (Albion®)	13.5 mcg	25%
Trans Fat	0 g	**	Manganese (as Manganese Bisglycinate Chelate) (Albion®)	0.5 mg	22%
Cholesterol	0 mg	0%	Chromium (as Chromium Nicotinate Glycinate Chelate) (Albion®)	11 mcg	31%
Total Carbohydrate	10 g	4%	Molybdenum (as Molybdenum Glycinate Chelate) (Albion®)	16 mcg	36%
Dietary Fiber	6 g	21%	Potassium (as Potassium Glycinate Complex) (Albion®)	210 mg	4%
Sugars	0 g	**	Organic Tapioca Maltodextrin (non-GMO)	3 g	**
Protein	13 g	26%	HMB (calcium B-hydroxy B-methylbutyrate)	3 g	**
Vitamin C (as calcium ascorbate)	50 mg	56%	L-Leucine	2 g	**
Vitamin D3 (as cholecalciferol)	1.7 mcg	8%	Organic Golden Flaxseed powder (non-GMO)	2 g	**
Vitamin B1 (as thiamin mononitrate)	5 mg	417%	Organic Inulin	2 g	**
Vitamin B2 (as riboflavin)	5 mg	384%	Isomalto-Oligosaccharide Mixture (soluble fiber)	1.8 g	**
Vitamin B3 (as niacinamide)	5 mg NE	31%	Medium Chain Triglycerides	1.75 g	**
Vitamin B6 (as pyridoxine HCl)	5 mg	294%	Organic Coconut Oil powder	400 mg	**
Folate (L-5-methyltetrahydrofolate, calcium salt)	50 mcg DFE	13%	Meriva® Curcumin Phytosome (<i>Curcuma longa</i> root extract & phospholipid complex)	250 mg	**
Vitamin B12 (as methylcobalamin)	25 mcg	1042%	Inositol	50 mg	**
Biotin	50 mcg	167%	L-Taurine	50 mg	**
Pantothenic Acid (as d-calcium pantothenate)	50 mg	1000%	Mixed Tocopherols (non-GMO)	30 mg	**
Choline (as choline bitartrate)	50 mg	9%	L-Carnitine HCl	11 mg	**
Calcium (as Calcium Bisglycinate Chelate) (Albion®)	150 mg	12%			
Iodine (as potassium iodide)	20 mcg	13%			

Other Ingredients: Organic pea protein (non-GMO), natural vanilla flavor, silicon dioxide, organic gum acacia, organic guar gum, monk fruit extract (Luo Han Guo), sunflower lecithin. **Does not contain gluten.**

SUGGESTED USE: MIX 1 SCOOP WITH AT LEAST 8 OUNCES OF WATER OR BEVERAGE OF CHOICE, ONCE PER DAY OR AS DIRECTED BY YOUR HEALTH CARE PROFESSIONAL.

WARNING: IF YOU ARE TAKING MEDICATION, HAVE A MEDICAL CONDITION OR AN UPCOMING MEDICAL PROCEDURE, OR ARE PREGNANT OR NURSING, CONSULT A PHYSICIAN BEFORE USING. IF ADVERSE REACTIONS OCCUR DISCONTINUE USE & CONSULT YOUR HEALTHCARE PRACTITIONER.

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* 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.

It is noteworthy that patients in the Deutz study were experiencing cancer-induced muscle wasting (i.e. cachexia, a metabolic endpoint analogous to sarcopenia) with systemic inflammation a universal finding—as it is in our chronically ill patients. This and other clinical similarities between sarcopenic muscle loss and cancer-related cachexia make the Deutz et al results profoundly applicable to patients for whom decreasing muscle mass and a chronically inflamed physiology serve as both causes and effects of increased allostatic load, a vicious cycle that inhibits improved symptomology and outcomes.

Findings from the Deutz et al study are also notable in that subjects taking the protein/leucine-enhanced supplement were found to synthesize new muscle proteins *while at rest*. Protein and branched chain amino acid supplements are well known to help increase muscle mass in conjunction with weight bearing exercise. The fact that individuals who took the experimental functional food were able to build muscle while lying down speaks to the formula's potential. SarcoSelect® DF may be highly beneficial even, if not especially, for the catabolic patient who is unable to participate in regular exercise.

The non-GMO, ORGANIC YELLOW PEA PROTEIN in SarcoSelect® DF offers a full complement of essential amino acids including leucine, an amino acid capable of directly stimulating muscle protein synthesis. A 2015 double-blind, randomized clinical study showed pea protein to be equivalent to whey protein in increasing muscle thickness following resistance training.

2 g of free LEUCINE are added to SarcoSelect® DF to help support and enhance its anabolic benefits. A researched metabolite of leucine, *beta-hydroxy-beta-methylbutyrate* (HMB), is also included in the product. HMB has been clinically shown to help maintain and promote muscle mass in adults, both with and without resistance training, at the 3 g dose contained in SarcoSelect® DF.

COMPLEX CARBOHYDRATES from Tapioca Maltodextrin are included in SarcoSelect® DF based on research suggesting a properly balanced carbohydrate:protein ratio enhances protein absorption and intracellular uptake, leading to increased muscle synthesis. FIBER from organic Flaxseed, Inulin and Oligosaccharides promotes satiety, supports cholesterol excretion and blunts post-prandial glucose response via delayed gastric emptying and inhibition of starch degradation in the small intestine.

INFLAMMATION SUPPORT comes from Meriva® Curcumin Phytosome, a patented turmeric extract that bonds curcumin to pure sunflower lecithin in a 1:2 ratio for enhanced lipid solubility. Research suggests Meriva® provides *at least* a 20-fold increase in curcuminoid absorption compared to standardized curcumin extracts. As primary active phenols in turmeric, curcuminoids have been shown to switch off inflammatory pathways by influencing both COX enzymes and NF-κB transcription factors.

TARGETED VITAMINS & MINERALS in SarcoSelect® DF feature fully chelated Albion® minerals for enhanced bioavailability, and folate in its preferred activated form, 5-methyltetrahydrofolate, to help support healthy methylation. The micronutrients in Moss Nutrition SarcoSelect® DF help to make it “a multi with direction,” one that truly will make a difference to your patients.

REFERENCES

1. Deutz NE, et al. Muscle protein synthesis in cancer patients can be stimulated with a specially formulated medical food. *Clin Nutr*. 2011 Dec;30(6):759-68.
2. Biolo G, et al. Muscle contractile and metabolic dysfunction is a common feature of sarcopenia of aging and chronic diseases: From sarcopenic obesity to cachexia. *Clinical Nutrition* (2014), <http://dx.doi.org/10.1016/j.clnu.2014.03.007>
3. Babault N, et al. Pea proteins oral supplementation promotes muscle thickness gains during resistance training: a double-blind, randomized, placebo-controlled clinical trial vs. whey protein. *J Int Soc Sports Nutr*. 2015 Jan 21;12(1):3.
4. Pasiakos SM, et al. Leucine-enriched essential amino acid supplementation during moderate steady state exercise enhances postexercise muscle protein synthesis. *Am J Clin Nutr*. 2011 Sep;94(3):809-18.
5. Koopman R, et al. Combined ingestion of protein and free leucine with carbohydrate increases postexercise muscle protein synthesis in vivo in male subjects. *Am J Physiol Endocrinol Metab*. 2005 Apr;288(4):E645-53.
6. Stout JR, et al. Effect of calcium β-hydroxy-β-methylbutyrate (CaHMB) with and without resistance training in men and women 65+ yrs: a randomized, double-blind pilot trial. *Exp Gerontol*. 2013 Nov;48(11):1303-10.
7. Belcaro G, et al. Efficacy and safety of Meriva®, a curcumin-phosphatidylcholine complex, during extended administration in osteoarthritis patients. *Altern Med Rev*. 2010 Dec;15(4):337-44.