



Body Composition

Essential Fatty Acids increase overall health, help you avoid heart disease and lose body fat.

EFA+ is an enhanced essential fatty acid formula containing optimum levels of the essential fatty acids as well as several other additive and synergistic ingredients. EFA+ also contains a number of other ingredients that provide a host of other benefits including weight and fat loss, and improvements in body composition.



www.metabolicdiet.com

EFA+ and Dieting



EFA+ can be beneficial even if a deficiency doesn't exist and, if used properly, can increase overall health, help you avoid heart disease and lose body fat.

Several studies have shown that fish oil increases insulin sensitivity, the breakdown of body fat and the use of fat as a primary energy source. As such, besides decreasing inflammation and increasing cardiovascular health, they also provide substantial weight and fat loss benefits.

EPA, and DHA can enhance lipolysis (body fat breakdown)^{1,2} and decrease lipogenesis (body fat formation).^{3,4}

The combined breakdown of stored body fat and decrease in additional body fat can have very positive results for the dieter. You actually end up making less and breaking down more body fat when using these oils.

And EFA+ is even more effective in helping you to get rid of excess body fat when it's used along with my Anabolic, Metabolic and Radical Diets, in which you take in lower amounts of carbs and higher amounts of fats than most diets.

The omega-3s can provide an excellent hedge against worries about cholesterol. For example marine oils are a big part of the diets of Eskimo tribes. Though their higher-fat diet would seem to make them prime candidates for heart disease and atherosclerosis, they've been found to be almost immune to cardiovascular problems, at least until Western dietary influences in recent years. Studies have centered on omega-3 fatty acids in the fish oils and their cardioprotective capacities as being central to this phenomenon.⁵

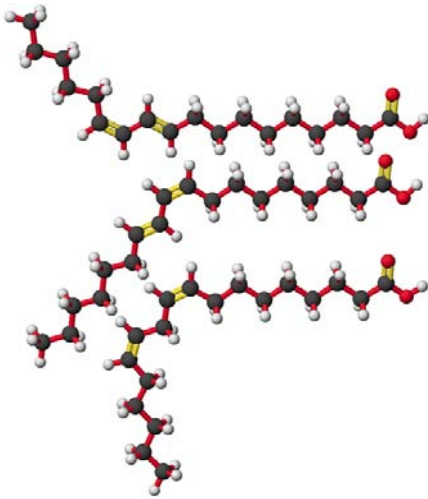
Even in cases where dietary cholesterol is increased, omega-3s may aid in actually lowering serum cholesterol.⁶ There is some evidence to suggest that in higher-fat diets aerobic exercise also reduces serum cholesterol⁷ and thus may improve the effects of omega-3 rich fish oil on cholesterol.

There's no doubt that the omega-3s are a major factor in lowering serum cholesterol levels, preventing coronary heart disease^{8,9} and perhaps even preventing or curing atherosclerosis.¹⁰ As well, Blood pressure, clotting, immune response, insulin resistance, and triglyceride levels are all positively affected by the omega-3s in EFA+.¹¹

But there's more to the story.

Since fat-free mass, and particularly muscle mass, is the main determinant of energy expenditure, the possibility of increasing or even maintaining muscle mass is an important consideration. That's where conjugated linoleic acid (CLA), another key EFA+ ingredient, comes in.

Conjugated Linoleic Acid



Conjugated Linoleic Acid (CLA) is a mixture of isomers of linoleic acid, which is found preferentially in dairy products, meat, and in cheese, milks and yogurt that have undergone heat treatment.

CLA has a wide range of biological effects. It has potent antioxidant activity and has shown potential as an anticarcinogen. Studies in animals and humans indicate that CLA supplementation decreases body fat and increases lean muscle mass. The increase in lean muscle mass is most pronounced in individuals who are exercising regularly.

CLA appears to reduce the ability of fat cells to take up fats from the bloodstream; it also inhibits the formation of new fat cells. CLA also helps cells burn fat at a higher rate, while fueling and preserving muscle, leading to a reduction in fat and an increase in lean muscle mass.

Numerous physiological effects in relation to body-weight control have been attributed to CLA in animals. In different animal models, CLA has been shown to reduce body fat and to increase lean body mass.^{12,13} A recent long term study found that a mixture of the two CLA isomers significantly lowered body fat mass in overweight humans at both 1 and 2 years.^{14,15}

As well, CLA seems to have significant effects on weight regain, as it reduces fat uptake into adipocytes by decreasing the formation of fat and but not affecting fat breakdown. It likely does this by affecting various enzymes involved in lipid formation rather than enhancing fat breakdown, known as lipolysis.^{16,17,18}

Thus there is an overall increase in fat breakdown since the two processes are usually in dynamic equilibrium with as much fat being produced as is broken down. Decreasing fat formation changes the dynamics to one of overall increased fat breakdown and subsequently a decrease in overall body fat.

The bottom line is that EFA+ has significant effects on weight and fat loss, and increases overall health and well being.

EFA+: A great way to get EFAs and then some

EFA+ is a multi-purpose formulation designed to provide the full gamut of all the essential fatty acids and supporting ingredients that are so important in optimizing your metabolism, enhancing weight loss, body composition, and the fat burning effects of exercise, boosting your immune system and decreasing counter productive inflammation in the body secondary to exercise, aging and various diseases.

EFA+ Nutritional Panel

Supplement Facts:		Serving Size: 4 Softgels			
		Servings Per Container: 30			
	Amount Per Serving	% Daily Value			
			Amount Per Serving		
			% Daily Value		
Calories	18		Glutathione (Reduced)	100 mg	*
Calories From Fat	18		Alpha Lipoic Acid	150 mg	*
Total Fat	2 g	1.5%	GLA (Gamma Linoleic Acid)	300 mg	*
Saturated Fat	0 g	0%	• (Borage Oil Extract)		
Cholesterol	0 mg	0%	Flaxseed Oil	1000 mg	*
			Conjugated Linoleic CLA	150 mg	*
Vitamin A (as Retynl Palmitate)	2,000 IU	40%	• (CLA Isomers)		
Vitamin C (as Ascorbic Acid)	100 mg	167%	Omega-3 Fish Oil	1000 mg	*
Vitamin D (as Cholecalciferol)	100 IU	25%	• EPA (Eicosapentaenoic acid)	330 mg	
Vitamin E (as dl-Alpha Tocopheryl Acetate)	100 IU	333%	• DHA (Docosahexaenoic acid)	220 mg	
Vitamin B3 (as Niacinamide)	10 mg	50%	EFA+ Proprietary Blend 470 mg		
Vitamin B6 (as Pyridoxine HCL)	10 mg	500%	Choline, Inositol, Methionine, Phosphatidylcholine, Phosphatidylserine,		
Magnesium (as Magnesium Chelate)	100 mg	25%	Policosanol, Serine		
Zinc (as Zinc Monomethionine)	10 mg	67%			

Other Ingredients: Gelatin, Water, Glycerin, Sorbitol, Natural Caramel Color, Titanium Oxide.

***Daily Value Not Established**



References

- ¹ Awad AB, Zepp EA. Alteration of rat adipose tissue lipolytic response to norepinephrine by dietary fatty acid manipulation. *Biochem Biophys Res Comm* 1979; 86:138-144.
- ² Parrish CC, Pathy DA, Parkes JG, Angel A. Dietary fish oils modify adipocyte structure and function. *J Cell Phys* 1991; 148(3):493-502.
- ³ Belzung F, Raclot T, Groscolas R. Fish oil n-3 fatty acids selectively limit the hypertrophy of abdominal fat depots in growing rats fed high-fat diets. *Am J Physiol* 1993; 264(6 Pt 2): R1111-R1118.
- ⁴ Parrish CC, Pathy DA, Angel A. Dietary fish oils limit adipose tissue hypertrophy in rats. *Metabolism: Clin Exp* 1990; 39(3):217-19.
- ⁵ Henzen C. Fish oil-healing principle in the Eskimo Diet? *Schweizerische Rundschau fur Medizin Praxis* 1995; 84(1):11-15.
- ⁶ Garg ML, Wierzbicki A, Keelan M, Thomson AB, Clandinin MT. Fish oil prevents change in arachidonic acid and cholesterol content in rat caused by dietary cholesterol. *Lipids* 1989; 24(4):266-70.
- ⁷ Schurch PM, Reinke A, Hollmann W. Carbohydrate-reduced diet and metabolism: about the influence of a 4-week isocaloric, fat-rich, carbohydrate-reduced diet on body weight and metabolism. *Medizinische Klinik-Muich* 1979; 74(36):1279-85.
- ⁸ Hodgson JM, Wahlqvist ML, Boxall JA, Lalazs ND. Can linoleic acid contribute to coronary artery disease? *Am J Clin Nutr* 1993; 58(2):228-34.
- ⁹ Davidson MH. Implications for the present and direction for the future. *Am J Card* 1993; 71(6):32B-36B.
- ¹⁰ Ni JS, Wu JX, Xiao RQ. [The preventive and curative action of fish oil compound on early atherosclerotic lesions in the aortic of diabetic rats]. *Chung-Hua Ping Li Hsueh Tsa Chih – Chinese Journal of Pathology* 1994; 23(1):31-3.
- ¹¹ Simopoulos AP. Essential fatty acids in health and chronic disease. *Am J Clin Nutr* 1999; 70(3):560S-569S.
- ¹² DeLany JP, Blohm F, Truett AA, Scimeca JA, West D.B. Conjugated linoleic acid rapidly reduces body fat content in mice without affecting energy intake, *Am J. Physiol* 1999; 276:R1172–R1179.
- ¹³ Belury MA. Dietary conjugated linoleic acid in health: physiological effects and mechanisms of action. *Annu Rev Nutr* 2002; 22:505–531.
- ¹⁴ Gaullier JM, Halse J, Høye K, et al. Conjugated linoleic acid supplementation for 1 y reduces body fat mass in healthy overweight humans. *Am J Clin Nutr* 2004; 79:1118–1125.
- ¹⁵ Gaullier JM, Halse J, Høye K, Kristiansen K, Fagertun H, Vik H, Gudmundsen O. Supplementation with conjugated linoleic acid for 24 months is well tolerated by and reduces body fat mass in healthy, overweight humans. *J Nutr.* 2005 Apr;135(4):778-84.
- ¹⁶ Park Y, Albright KJ, Storkson JM, et al. Changes in body composition in mice during feeding and withdrawal of conjugated linoleic acid, *Lipids* 1999; 34(3):243-248.
- ¹⁷ Pariza MW, Park Y, Cook ME. The biologically active isomers of conjugated linoleic acid, *Prog Lipid Res* 2001; 40(4):283-298.
- ¹⁸ Choi Y, Kim YC, Han YB, et al. The trans-10,cis-12 isomer of conjugated linoleic acid downregulates stearoyl-CoA desaturase 1 gene expression in 3T3-L1 adipocytes, *J Nutr* 2000; 130 (8):1920-1924.

