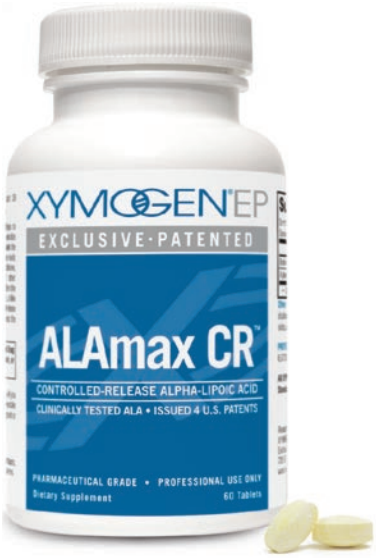
ALAmax CR™

Controlled-Release Alpha-Lipoic Acid



Available in 60 tablets

Clinical Applications

- Provides Fat-Soluble and Water-Soluble Antioxidant Activity*
- Coenzyme for Whole-Body Glucose Utilization*
- Supports Healthy Intracellular Glutathione Levels*
- Supports Regeneration of Vitamins C and E*
- Helps Maintain a Balance Between Oxidized and Reduced CoQ10*

*ALAmax CR™ provides whole-body, multifunctional antioxidant activity that helps to maintain healthy, well-functioning cells. ALAmax CR is designed to neutralize free radicals in both the water-based and lipid-based portion of cells, help the body synthesize glutathione, and recharge important antioxidants. Unlike regular alpha-lipoic acid, ALAmax CR's patented, controlled-release formulation provides extended protection. In addition, biotin supports the function of alpha-lipoic acid in glucose metabolism.**

Discussion

Alpha-lipoic acid (ALA) is an eight-carbon disulfide water- and fat-soluble compound that is synthesized in small quantities in the liver and other tissues. Oral supplementation readily crosses the blood brain barrier after it is absorbed in the small intestine, goes into the portal vein, and is distributed via systemic circulation. Once in the tissues, ALA can be found inside and outside the cells including inside the mitochondria where it functions naturally as a coenzyme for the oxidation of pyruvate, alpha ketoglutarate, and branched-chain amino acids.*

Researchers recently identified lipoic acid's mechanisms of action related to maintaining metabolic health. It has a direct binding site at the insulin receptor tyrosine kinase domain. ALA appears to modulate 5'-AMP-activated protein kinase and PPAR-regulated genes, to activate PPAR–alpha and PPAR-gamma, and to support expression of PPAR-gamma mRNA and protein in heart tissue and smooth muscle of the aorta.*[2]

Controlled-release technology supports efficacy of alpha-lipoic acid in helping to maintain blood sugar already in the normal range. Data from a 12-week clinical study indicate that supplementation with ALAmax CR™ (1200 mg per day, divided doses) may support healthy C-peptide levels. C-peptide is used as an indication of insulin sensitivity.*[3,4]

Alpha-lipoic acid effectively neutralizes a variety of free radicals, including oxygen radicals and ionized metals. This action is particularly beneficial for people who have higher levels of oxidative stress. Alpha-lipoic acid regenerates vitamins C and E, increases tissue levels of glutathione, and helps maintain the proper ratio of reduced to oxidized coenzyme Q10 in the mitochondria. In addition, alpha-lipoic acid may help the body rid itself of heavy metals.*

Healthy endothelial-mediated vasodilation is accepted as a surrogate marker for cardiovascular health and can be affected by synthesis, bioavailability, or action of nitric oxide (NO). Increased oxidative stress appears to play a significant role in neutralizing or inactivating NO. ALA's antioxidant properties, along with its demonstrated safety and potency, qualify it as a prime candidate to evaluate for its ability to support healthy endothelial function.*[5]

The ability of alpha-lipoic acid to improve energy metabolism and decrease oxidative stress alludes to its ability to support healthy mitochondrial function with age.*

Biotin has been added because chronic administration of lipoic acid lowers the activities of pyruvate carboxylase and beta-methylcrotonyl-CoA carboxylase in vivo by competing with biotin.*[6]

Antioxidants

Blood Sugar Support

Cell-Life Regulation

Liver Support

ALAmax CR™ Supplement Facts

Serving Size: 1 Tablet

	Amount Per Serving	%Daily Value
Biotin	450 mcg	150%
Alpha-Lipoic Acid (as thioctic acid)	600 mg	**

** Daily Value not established.

Other Ingredients: Cellulose and cellulose derivatives, dicalcium phosphate, stearic acid, magnesium stearate, silica, and glycerin.
PROTECTED BY U.S. PATENTS: 6,191,162(B1); 6,197,340(B1);6,572,888(B2); 7,118,762(B2)

DIRECTIONS: Take 1 tablet 30 minutes before breakfast and 1 tablet 30 minutes before dinner, or as directed by your healthcare practitioner.

DOES NOT CONTAIN: Wheat, gluten, yeast, soy, animal or dairy products, fish, shellfish, nuts, tree nuts, artificial colors, sweeteners, or preservatives.

CAUTIONS: Consult your healthcare practitioner before use, especially if you have or suspect you have a medical condition, including diabetes; if you take prescription drugs or are allergic to any ingredient; or if you are pregnant or lactating. Keep out of reach of children.

STORAGE: Store in a cool, dry place.

References

1. Teichert J, Kern J, Tritschler HJ, Ulrich H, Preiss R: Investigations on the pharmacokinetics of alpha-lipoic acid in healthy volunteers. *Int.J.Clin. Pharmacol.Ther.* 36:625-628, 1998
2. Pershadsingh HA. Alpha-lipoic acid: physiologic mechanisms and indications for the treatment of metabolic syndrome. *Expert Opin Investig Drugs.* 2007 Mar;16(3):291-302 [PMID: 17302524]
3. Evans JL, Goldfine ID: α-Lipoic acid: a multi-functional antioxidant that improves insulin sensitivity in patients with type 2 diabetes. *Diabetes Technol Therap* 2:401-413, 2000
4. Jacob S, Ruus P, et al. Oral administration of RAC-alpha-lipoic acid modulates insulin sensitivity in patients with type 2 diabetes mellitus: a placebo-controlled pilot trial. *Free Radic Biol Med* 27:309-314, 1999
5. Bojunga J, et al. Antioxidative treatment reverses imbalances of nitric oxide synthase isoform expression and attenuates tissue-cGMP activation in diabetic rats. *Biochem Biophys Res Commun.* 2004 Apr 9;316(3):771-80 [PMID: 15033467]
6. Zempleni J, Trusty TA, Mock DM. Lipoic acid reduces the activities of biotin-dependent carboxylases in rat liver. *J Nutr.* 1997 Sep;127(9):1776-81 [PMID: 9278559]
7. Foster TS. Efficacy and safety of {alpha}-lipoic acid supplementation in the treatment of symptomatic diabetic neuropathy. *Diabetes Educ.* 2007 Jan-Feb;33(1):111-7 [PMID: 17272797]
8. Alpha Lipoic Acid. www.naturaldatabase.com {accessed 3.06.07}
9. Diesel B. et. al. Alpha-lipoic acid as a directly binding activator of the insulin receptor: protection from hepatocyte apoptosis. *Biochemistry.* 2007 Feb 27;46(8):2146-2155. Epub 2007 Feb 3 [PMID: 17274632]

EXCLUSIVE • PATENTED

All XYMOGEN© Formulas Meet or Exceed cGMP Quality Standards.

***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.**