



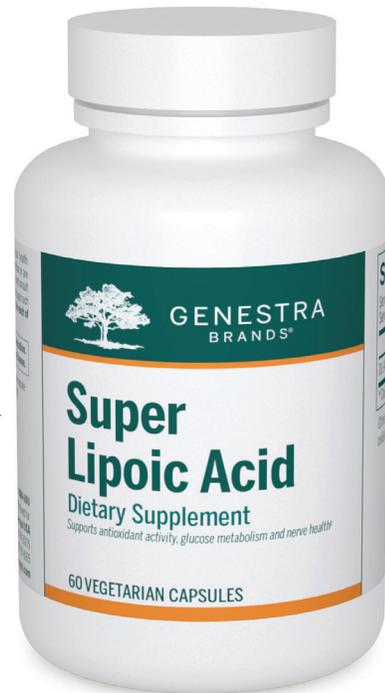
GENESTRA
BRANDS®

Super Lipoic Acid

Concentrated lipoic acid formula

- Helps to promote healthy glucose metabolism and nerve health[‡]
- Supports antioxidant activity[‡]
- Provides 600 mg of lipoic acid per daily dose
- Ideal for vegans
- **Improved formula**
 - Offers a higher amount of lipoic acid per capsule (600 mg compared to 350 mg)
 - Free from magnesium stearate

Super Lipoic Acid offers 600 mg of lipoic acid per capsule to support healthy glucose metabolism, nerve health and antioxidant defense. Research suggests that lipoic acid helps to stimulate glucose uptake by increasing the number of GLUT4 glucose transporters on cell membranes, which provides support for healthy glucose metabolism. As an antioxidant in both its oxidized and reduced forms, lipoic acid can scavenge free radicals, regenerate endogenous antioxidants (such as glutathione and vitamins C and E), and bind metal ions to reduce metal-induced oxidative damage. This unique water- and fat-soluble antioxidant may also protect pancreatic β -cells from damage due to oxidative stress. Because it supports antioxidant defense using a variety of actions in nearly every part of the cell, it is known as the “universal antioxidant.” Furthermore, its antioxidant effects may be especially important in promoting healthy blood flow in nerves. Multiple clinical trials have demonstrated that daily supplementation with 600 mg of lipoic acid helps maintain nerve comfort and function.[‡]



SUPPLEMENT FACTS		
Serving Size 1 Capsule		
Servings per Container 60		
	AMOUNT PER SERVING	% DV
DL-Alpha-Lipoic Acid	600 mg	*
* Daily value (DV) not established		

Other ingredients: Hypromellose, ascorbyl palmitate, cellulose

Recommended Dose

Take 1 capsule daily or as recommended by your health professional.

Size
60 Vegetarian Capsules

Product Code
10588A



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Super Lipoic Acid

Scientific Rationale:

Lipoic acid, also known as thioctic acid, is a naturally occurring short-chain fatty acid.^{1,2} It is present in the mitochondria of cells, where it functions as a cofactor for enzymes involved in energy metabolism, such as pyruvate dehydrogenase and alpha-ketoglutarate dehydrogenase.^{3,4} In addition to this role, lipoic acid is primarily recognized for its effective antioxidant activities.^{3†}

Lipoic acid is unique among antioxidants as it is both water- and fat-soluble.³ As it easily crosses biological membranes, it is able to exert its actions in nearly every part of the cell, including the cytosol and plasma membrane.³ Lipoic acid has also been reported to cross the blood-brain barrier.¹ In contrast, vitamins C and E are typically either water- or lipid-soluble, respectively.^{3†}

Research has reported that lipoic acid functions as an antioxidant in a number of ways.³ In both its oxidized and reduced form (known as dihydro-lipoic acid or DHLA), lipoic acid can directly scavenge reactive oxygen species, including hydroxyl radicals, hypochlorous acid and singlet oxygen.³ By recycling other antioxidants, including glutathione and vitamins C and E, lipoic acid helps to maintain their activity.³ Additionally, preclinical research has reported that lipoic acid binds metal ions, such as copper, zinc and lead, to reduce their involvement in the generation of free radicals.^{3,4} Due to its ability to support antioxidant defense in many ways throughout the body, lipoic acid has been termed the “universal antioxidant.”^{2†}

In addition to free radical production in the mitochondria, oxidative stress can result from high glucose levels.³ In turn, this oxidative stress can impair pancreatic β -cell health.⁵ Research has found that lipoic acid promotes healthy glucose metabolism by activating the expression of AMPK, a cellular energy sensor, in the hypothalamus and peripheral tissues.⁶ This complex has been shown to decrease glucose production in the liver and stimulate glucose uptake by increasing the number of GLUT4 glucose transporters on cell membranes.⁶ By scavenging free radicals, lipoic acid also supports pancreatic β -cell health.^{6†}

Lipoic acid has been studied in clinical trials for promoting healthy glucose metabolism.^{7,8} One randomized, double-blind, placebo-controlled trial evaluated the effects of daily supplementation with 300 mg of lipoic acid for two months.⁷ Another randomized, placebo-controlled trial found that lipoic acid supplementation (600 mg once, twice, and thrice daily for 28 days) supported glucose uptake when compared to a placebo.^{8†}

Reactive oxygen species can also result from the formation of advanced glycation end-products (AGE).⁹ While these compounds can be derived from the diet (such as foods high in fat and protein), their production is also associated with high blood glucose levels.⁹ Preclinical research has shown that lipoic acid may help regulate AGE formation to further support good health.^{10,11†}

The excess production and decreased clearance of reactive oxygen species can also affect the vascular and metabolic pathways that regulate nerve cell function and health.¹² Lipoic acid has been extensively studied for its ability to help promote nerve comfort. Its antioxidant activity helps promote healthy blood flow in nerves, which may be the primary mechanism responsible for its beneficial effects on nerve cell health.¹³ Specifically, lipoic acid has been found to scavenge free radicals, decrease lipid peroxidation and regenerate other antioxidants within peripheral nerves.^{12,14} Lipoic acid can also promote blood flow and nerve conduction by supporting endothelial cell function as well as mediating nerve fiber growth and regeneration.^{12,14†}

One randomized, double-blind, placebo-controlled trial evaluated the effects of varying lipoic acid doses on nerve comfort.¹⁵ Daily supplementation with 600, 1,200 or 1,800 mg of lipoic acid daily for five weeks significantly improved nerve comfort scores when compared to a placebo.¹⁵ The study authors concluded that the most appropriate dose was 600 mg daily, as the effects were not dose-dependent and this dose was well-tolerated.¹⁵ Similarly, multiple clinical trials have observed that administration of 600 mg of lipoic acid daily helps maintain nerve comfort and function.^{16,17†}

Although it can be endogenously produced from a reaction involving fatty acids and cysteine, humans produce low levels of lipoic acid; therefore, it must be obtained from dietary sources.³ Lipoic acid is primarily found in animal products, such as muscle, heart, liver and kidney, but is also present in lower amounts in fruits and vegetables, including spinach, broccoli, Brussels sprouts and tomatoes.^{3,4} Still, as research suggests that Western diets do not typically provide significant levels of lipoic acid, supplements may be an effective way of increasing the intake of this valuable antioxidant.^{3†}

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