GENESTRA BRANDS®

Super Lipoic Acid

Concentrated lipoic acid formula

- Helps to promote healthy glucose metabolism
- 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 and antioxidant defence. 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.[1] This unique water- and fat-soluble antioxidant may also protect pancreatic β-cells from damage due to oxidative stress.[2] Because it supports antioxidant defence using a variety of actions in nearly every part of the cell, it is known as the "universal antioxidant."[1,3] Furthermore, 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.[2] In a randomized, placebo-controlled trial, daily supplementation with 300 mg of lipoic acid promoted healthy glucose metabolism as demonstrated by decreased levels of fasting plasma glucose and insulin resistance.[4] Additionally, consuming 600 mg of lipoic acid daily for at least three months significantly reduced oxidative stress in adults, as measured by a marker of lipid peroxidation.[5]

EACH CAPSULE CONTAINS:

DL-Alpha-Lipoic Acid	600 mg

Non-Medicinal Ingredients: Hypromellose, ascorbyl palmitate, cellulose

Recommended Dose
Adults: Take 1 capsule daily or as recommended by your healthcare practitioner.

Product Size
60 Vegetarian Capsules

Product Code
10588A

NPN 80086619

Non GMO · Gluten Free · Vegan

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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 primarily recognized for its effective antioxidant activities.[3] Lipoic acid provides particular support to the mitochondria of cells, a key source of free radicals formed during the production of energy.[2-4]

Lipoic acid is unique among antioxidants because 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: scavenging free radicals, regenerating endogenous antioxidants, and reducing metal-induced oxidative damage.[3] In either its oxidized or reduced form (known as dihydro-lipoic acid or DHLA), lipoic acid can directly scavenge various reactive oxygen species, including hydroxyl radicals, hypochlorous acid and singlet oxygen.[3] By recycling other antioxidants, including vitamins C and E, glutathione, and coenzyme Q_{10}, 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 defence in many ways throughout the body, lipoic acid has been termed the "universal antioxidant."[2]

One controlled study evaluated the antioxidant effects of lipoic acid in adults.[5] Researchers reported that individuals receiving 600 mg of lipoic acid daily for at least three months had significantly lower levels of lipid peroxidation, as measured by plasma lipid hydroperoxides (ROOH), representing a reduction in oxidative stress.[5] Additionally, a ratio involving ROOH and α-tocopherol significantly improved, suggesting that lipoic acid also promoted a healthy balance between antioxidant defence and oxidative stress.[5]

In addition to the production of free radicals in the mitochondria, oxidative stress can result from high glucose levels.[3] In turn, this oxidative stress can impair the health of pancreatic β-cells.[6] 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.[7] 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.[7] By decreasing free-radical formation, lipoic acid can also protect pancreatic β-cells from damage due to oxidative stress.[7]

Reactive oxygen species can also result from the formation of advanced glycation end-products (AGE).[8] While these compounds can be derived from the diet (such as foods high in fat and protein), their production is also associated with higher levels of blood glucose.[8] Preclinical research has reported that lipoic acid can reduce AGE formation to further support good health.[9,10]

In a randomized, double-blind, placebo-controlled trial, daily supplementation with lipoic acid significantly promoted healthy glucose metabolism.[11] Participants consumed either lipoic acid (300 mg) or placebo capsules daily for two months.[11] Results demonstrated that lipoic acid significantly lowered fasting plasma glucose and insulin resistance when compared to both baseline and placebo values.[11] Similarly, a randomized, placebo-controlled trial found that glucose uptake significantly improved more often after lipoic acid supplementation (600 mg once, twice and thrice daily for 28 days) when compared to a placebo.[12]

Although lipoic acid can be endogenously produced from a reaction involving fatty acids and cysteine, humans generate it only in low levels; 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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