



EDTA with R-Lipoic Acid



Supplement Facts		
Serving Size: 5 mL (1 tsp.)	Amount	% Daily
Servings Per Container: 24	Per Serving	Value
Sodium	68mg	3%
EDTA (Disodium EDTA)	210mg	**
Lipoic Acid (from Sodium R-Lipoate)	26mg	**
Phosphatidylcholine (from purified soybean lecithin)	450mg	**
**Daily Value not established		
Other Ingredients: Glycerin, ethanol, water, sodium hydroxide		

Liposomal EDTA with R-Lipoic Acid is a highly absorbable form of the universal chelating agent, ethylenediaminetetraacetic acid (EDTA)¹, delivered together with potent R-lipoic acid, noted for its antioxidant and chelating properties.² Together they effectively bind a wide range of toxic metals including mercury, lead, arsenic, nickel and cadmium.^{3,4,5} Their synergy offers balanced redox action to offset the oxidizing effect of metals and their mobilization.⁶

Heavy metals such as mercury, arsenic and lead can penetrate biomembranes and sequester inside cells, tissue and bone.^{7,8,9} Effective chelators must cross those biomembranes and stay in the cell long enough to capture metals. Our patented liposomal delivery system allows oral calcium disodium EDTA—traditionally used in IV therapies¹⁰—to cross the cell membrane for intracellular delivery, where metals are often sequestered.¹¹

R-Lipoic acid, the most active isomer of alpha-lipoic acid, functions as a mitochondrial antioxidant, supporting glutathione, ubiquinol, Vitamin C and Vitamin E.¹² The result is a well-tolerated, effective chelating formula that not only captures toxic metals but has beneficial effects on the nervous system, inflammation, liver function and glucose metabolism.¹³

SUPERIOR BIOAVAILABILITY AND CHELATING POWER

Calcium disodium EDTA is the most commonly used chelating agent in the world, noted for its ability to bind lead, but also effective in capturing many other toxic metals.¹⁴ Yet only 5% of orally consumed EDTA is absorbed, while the other 95% is excreted unchanged in the urine within 72 hours.¹⁵ Intracellular absorption is also low with intravenous delivery, as EDTA is rapidly excreted from the kidneys, with a maximum half-life of 3 hours.¹⁶ In contrast, liposomal formulations of EDTA have been shown to offer superior bioavailability, with greater uptake in spleen, lungs, liver and marrow, depending on the specific formulation.^{17,18}

Lipoic acid, in turn, can bind to cadmium, lead, cobalt, nickel, and mercury, among other metals.¹⁹ Lipoic acid is lipophilic and is able to penetrate cell membranes. However, R-Lipoic acid is significantly better absorbed than the S-form, with peak plasma concentrations 40%-50% higher.²⁰ Liposomal formulations of lipoic acid outperform other oral forms, allowing slow, sustained release.²¹

INCREASES ANTIOXIDANT DEFENSES

Both EDTA and R-lipoic acid reduce oxidative stress and injury, and increase antioxidant activity.²² By chelating toxic metals that are responsible for cell membrane injury, EDTA reduces oxidative stress and inflammation.²³ EDTA has shown direct antioxidant activity in blood vessel walls²⁴ and has decreased DNA damage and plasma peroxide levels by 20%.²⁵

Lipoic acid is a powerful mitochondrial antioxidant that plays a critical role in mitochondrial energy metabolism. It has been called a universal antioxidant, both fat- and water-soluble, and able to neutralize reactive oxygen species (ROS) both inside and

BENEFITS & APPLICATIONS:

- Universal chelator^{1,3,4,5,14}
- Antioxidant action^{12,27,28}
- Highly bioavailable^{17,18,21}
- Works inside and outside cells¹²
- Anti-inflammatory³⁸
- Tissue protective³⁵
- Detoxification³⁰
- Cardiovascular health^{33,34}
- Neurological health^{32,36}
- Supports glutathione²⁷
- Supports vitamins C and E²⁸
- Increases action of Nrf2³⁰

outside cells.¹² Lipoic acid is particularly effective in offsetting free radical peroxidation of membrane phospholipids.²⁶ It supports vitamin C, glutathione, vitamin E and CoQ10.^{27,28} It is associated with elevated cell resistance to oxidative challenge.²⁹ Lipoic acid has also been shown to regulate the transcription of genes associated with antioxidant and anti-inflammatory pathways, including the potent master antioxidant switch, Nrf2.³⁰

CARDIOPROTECTIVE, NEUROPROTECTIVE AND TISSUE PROTECTIVE

Lipoic acid can cross the blood-brain barrier, where it may benefit the central nervous system. It has been shown to increase the antioxidant capacity of brain tissue, promote angiogenesis - the growth of blood vessels from the existing vasculature, and regulate activity of genes linked to cell survival and plasticity.³¹ It has been shown beneficial in nervous system diseases such as multiple sclerosis and Parkinson's disease.³² EDTA improves arteriosclerosis³³ and can reduce risk of cardiovascular events.³⁴ EDTA has slowed the progression of diabetic nephropathy³⁵ and improved symptoms in those with multiple sclerosis.³⁶

POWERFUL ANTI-INFLAMMATORY AND IMMUNE MODULATING ACTION

Lipoic acid has been shown to downregulate levels of inflammatory cytokines such as IL-1B and IL-6³⁷, as well as interferon gamma, IL-4, TGF beta and other cytokines.³⁸ It has been found effective in studies of peripheral neuropathy, diabetes, hepatitis, Alzheimer's and Parkinson's disease, multiple sclerosis, and more.^{39,40}

UTILIZES PURE, NANOSCALE LIPOSOMES FOR FAST, COMPLETE UPTAKE

In today's toxic world, the burden of heavy metals is unavoidable, reaching us from air, water, and food. A potent liposomal chelating blend that also supports antioxidant activity is ideal for quickly mitigating the cellular damage these metals may cause.⁴¹ The liposomes in this formula contain pure phosphatidylcholine, a lipid that is the primary building block of all cell membranes, including brain cells.⁴² Liposomal delivery systems protect molecules from breakdown while enabling more rapid uptake. Liposomal formulations improve absorption of many molecules in the gastrointestinal tract, avoiding hepatic first-pass metabolism and resulting in higher bioavailability.⁴³

Quicksilver Delivery Systems® brings the power of intravenous therapy into convenient oral delivery. Our Quicksilver Delivery System® improve upon liposomal and emulsification technology with smaller, more stable particles made from the highest-grade ingredients available. In addition to exceptional absorption rates, these tiny liposomal and nanoemulsified particles increase diffusion across mucus membranes, enhance lymphatic circulation of nutrients and support cellular delivery.^{44,45}

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Rev. 002



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