Stabilized R-Lipoic Acid Plus

Clinical Applications

- Provides Antioxidant Protection *
- Supports Blood Sugar Balance *
- Enhanced Glucose Metabolism *
- Improves Memory *

*New technological advancements have allowed for the stabilization and isolation of the R-LA (R-lipoic acid isomer). R-Lipoic Acid is the most active isomer of alpha-lipoic acid, which is a versatile antioxidant.**

All Adaptogen Research Formulas Meet or Exceed cGMP Quality

Discussion

R-lipoic acid is a highly unstable compound that easily polymerizes into a sticky rubber or glue-like substance if it is not prepared, stored and processed correctly. This may adversely affect bioavailability.

Stable RLA is a non-hygroscopic, non-polymeric potassium salt form of RLA. The capsules are heat stable, characterized by fast dissolution rates, high solubility and absorption. They are also free of residual solvents and moisture. There are wide variations in the R/S ratios and total polymer contents of raw material and finished products now on the market. Few supplement companies have experience with RLA and are unaware of the myriad of problems associated with its encapsulation and stability. Adaptogen Research Stabilized R-Lipoic Acid is one of the most stable and highly bioavailable forms of R-lipoic acid available on the market.

R-Lipoic Benefits

Lipoic acid is a disulfide compound that is a cofactor in vital energy-producing reactions in the body. It is also a potent biological antioxidant, both water and fat soluble. It is made endogenously in humans and so it is not an essential nutrient. However, many physiological states, such as excessively high blood glucose levels, diabetic polyneuropathy, cataract, liver pathologies and toxic metal load, make lipoic acid conditionally essential. In addition, extensive research indicates that the many roles of alpha-lipoic acid may result in various health benefits, as reviewed here.

R/S-lipoic acid has been studied for over 30 years and it is approved in Germany as a drug for the treatment of polyneuropathies, such as diabetic and alcoholic polyneuropathies, and liver disease.1 Recent studies have investigated the effectiveness of RLA versus SLA forms in order to identify their specific effects. It was suspected that RLA, being the majority of the natural form produced in the body, would have a stronger impact than SLA and the results of the research have confirmed this.[16-21, 25]

Bioavailability

Compared to SLA, RLA causes 50% higher peak plasma levels of lipoic acid and 60-85% higher total absorption.[12] Feeding lipoic acid to animals at risk of cataract caused a 2-7 fold higher uptake of RLA versus SLA in the lens content of lipoic acid, and reduced the development of experimentally produced cataract by 50%.[19]

Boosts Energy Production/Mitochondrial Cofactor

RLA is the majority of lipoic acid found in nature and therefore likely to fit better as a cofactor for mitochondrial enzymes pyruvate and alpha-ketoglutarate dehydrogenase.[5] SLA cannot bind well to these enzymes and actually inhibits them.[20] Thus the S-form can oppose the action of the R-form. In the aging rat heart, RLA stimulated ATP production, whereas SLA inhibited it.[3]

***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.**

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RLA supplementation improves metabolism, measured as oxygen consumption in liver cells, and improves ambulatory activity in supplemented animals, bringing old treated animals to the level of young animals.[3] Pre-treatment of brain cells with RLA leads to the restoration of the mitochondrial activity lost due to glutathione depletion.[6]

Enhanced Glucose Metabolism

RLA significantly increases insulin sensitivity, glucose transport, metabolic rate and reduces the gain in body fat associated with aging.[10-11] R-lipoic acid has insulin-mimetic effects in glucose uptake in insulin resistant cells and may have therapeutic implications in restoring glucose availability in tissues such as the skeletal muscle.[13, 16]

The RLA was found to enhance insulin-stimulated glucose transport and non-oxidative/oxidative glucose metabolism by as much as 64%, while SLA had no effect. Also, RLA decreased insulin by 17% while SLA increased it by 15%.[16]

Through its positive effects on cellular energy metabolism, RLA attenuates metabolic dysfunction associated with advanced glycation end products (AGEs). AGEs accumulate on long-lived proteins, including beta-amyloid plaques in Alzheimer's disease and contribute to neuronal dysfunction and cell death.[21]

Antioxidant Properties

RLA increases cellular and mitochondrial antioxidant activity, and was able to eradicate the age-related changes in animal models. This effectively attenuates the reported age-related increase in oxidative stress.[3] RLA significantly increases or recycles other antioxidants including coenzyme Q10, vitamin C, vitamin E and glutathione.[3, 5, 6, 11] RLA protects lipids against peroxidation and reverses stress damage in the heart.7 Anti-inflammatory Effect RLA, a membrane permeable antioxidant, prevents the up regulation of the AGE-induced gene expression responsible for regulating nitric oxide (NO) production. NO oxidizes nitrates and proteins which are markers of a chronic neuro inflammatory condition. This mechanism is relevant for Alzheimer's disease and for many chronic inflammatory conditions.[24] RLA reduces inflammation, and is more potent by a factor of 10 over R/S-LA. [17]

Metal Chelator

RLA was more effective than the SLA in a battery of metal chelation tests. One hypothesis of the cause of diabetic complications involves overloading by transition metals, which implicates the RLA as more effective in treating diabetic neuropathy.[2]

Neuro-protection

RLA improves memory, reverses cognitive dysfunction, and protects the brain from neuro-degeneration associated with aging. This may be due to its effect on increased ATP production, chelating, antioxidant and anti-glycating capacity.[6, 7]

Supplement Facts

Serving Size 1 capsule

Amount Per Serving		% Daily Value
Biotin	4 mg	1330%
Taurine	500 mg	*
R-Lipoic Acid	100 mg	*

*Daily Value not established.

Other Ingredients: Potassium bicarbonate, microcrystalline cellulose, silicon dioxide, vegetable stearate.

Suggested Use: As a dietary supplement, take one capsule per day with a meal, or as directed by your health care practitioner.

Caution: If you are pregnant, nursing, have a medical condition, or taking prescription drugs, consult your physician before using this product. KEEP OUT OF REACH OF CHILDREN.

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