



Alpha Lipoic Acid

Scientists first discovered the importance of alpha-lipoic acid in the 1950's, and recognized it as an antioxidant in 1988. Alpha lipoic acid, also known as thiotic acid is an antioxidant that prevents free-radical damage. Although there have been hundreds of studies over 40 years revealing how lipoic acid energizes metabolism, the new excitement about this vitamin-like substance can be seen in the many recent studies focusing on how it improves the physique, combats free radicals, protects genetic material, slows aging, helps protect against heart disease, cancer and many other diseases, according to Richard A. Passwater, Ph.D. "Both insulin-dependent and non-insulin-dependent diabetics will be excited to learn that lipoic acid has been used for nearly 30 years in Europe to treat diabetic neuropathy, help regulate blood sugar and prevent diabetic retinopathy and cardiopathy," Passwater says. "Lipoic acid not only protects the nervous system, but also may be involved in regenerating nerves. Alpha lipoic acid is also being studied in the treatment of Parkinson's disease and Alzheimer's disease."

Hans J. Tritschler, Ph.D., a well-known researcher of lipoic acid, says that the substance is a very important co-factor for glucose metabolism. Several studies suggest that treatment with alpha lipoic acid may help reduce pain, burning, itching, tingling, and numbness in people who have nerve damage (called peripheral neuropathy) caused by diabetes. Alpha-lipoic acid has been used for years for this purpose in Europe. Other studies have shown that alpha-lipoic acid speeds the removal of glucose (sugar) from the blood of people with diabetes and that this antioxidant may prevent kidney damage associated with diabetes in animals.

It appears that alpha lipoic acid, alone or together with vitamin E, is an effective treatment for radiation exposure, lessening incidents of oxidative damage and normalizing organ function, according to Lester Packer, Ph.D., et al. in *Free Radical Biology and Medicine* 1995. This therapy has been effective in treating children living in areas affected by the Chernobyl accident in the former Soviet Union.

Neither animal nor human studies, so far, have shown serious side effects with the use of alpha lipoic acid, Packer says. However, it is not recommended for pregnant women without proper supervision. Since it may interfere with vitamin B-1 utilization, a thiamine supplement may be warranted if lipoic acid is given to thiamine-deficient individuals such as alcoholics.

Alpha lipoic acid may offer protection from cataract formation. In the issue of *Free Radical Biology and Medicine*, 1. Maitra, et al., reported that, when lab animals were treated with buthionine sulfoximine (BSO), all developed cataracts. But supplementation with lipoic acid protected 60 percent of the BSO-treated animals from cataract formation. Maitra and colleagues added that concentrations of glutathione, vitamin C and vitamin E, which decrease after BSO administration, were restored to levels similar to the controls. Lipoic acid also restored the protein complexes glutathione peroxidase and catalase, as well as ascorbate free-radical reductase activities, in the lens of the animals.

Note: These statements have not been evaluated by the FDA. These products are not intended to diagnose, treat, cure or prevent any disease. Maitra, I. et al. "Alpha Lipoic Acid Prevents Buthionine Sulfoximine-induced Cataract Formation in Newborn Rats," *Free Radical Biology and Medicine* 18:823-829,1995. Packer, Lester, Ph.D., et al."Alpha-Lipoic Acid As A Biological Antioxidant," *Free Radical Biology and Medicine* 19:227-250, 1995. Passwater Richard A., Ph.D. *Lipoic Acid: The Metabolic Antioxidant* New Canaan, Conn. Keats Publishing, Inc., 1995 pp. 7-8. Tritschler, Hans J. Ph.D. Personal interview, Oct. 16, 1995 *Better Nutrition* January 1996.