

# Professional Education Series 6003/2005

*Information contained in this bulletin is for informational and educational purposes only and is not intended as a substitute for advice from your physician. This information should not be used for diagnosis or treatment of any health problem. You should consult with a health care professional for treatment of any health issue.*

## Alpha Lipoic Acid

*The Universal Antioxidant*

*by Dr. Larry J. Milam, H.M.D., Ph.D*



**#6003 Alpha Pure  
60 Capsules**

Alpha Lipoic Acid (ALA) is a powerful antioxidant that has been used for many years in Europe to promote liver and nerve health and to protect against oxidative damage. One of its most beneficial attributes is its ability to regenerate other essential antioxidant such as vitamins C & E, coenzyme Q10, and glutathione.\*

One key to the effectiveness of Alpha Lipoic Acid is its capability of neutralizing both water and fat-soluble free radicals. This means that its power can be utilized in both intracellular and the extracellular fluid to help the body rid itself of accumulated ingested toxins.\*

Inside cells, Alpha Lipoic Acid is readily reduced to *dihydrolipoic acid*, a powerful antioxidant capable of destroying *superoxide hydroperoxyl* and *hydroxyl radicals*. Incredibly, once ALA has donated an electron to recycle another antioxidant, in its reduced form it becomes even more powerful, capable of quenching more potent free radicals.

ALA's ability to regenerate glutathione provides cells a double dose of antioxidant protection. Low levels of glutathione can increase oxidative stress, which causes inflammation, damages organs, nerve cells, and can lead to peripheral neuropathy.\*

ALA also serves as a metal chelating agent.\*

***A review of literature also shows many other potential uses of this unique compound:***

### **Diabetes**

Diabetes is a degenerative disease that is prevalent throughout the world and is a primary risk factor for cardiovascular disease. In the US, Diabetes is the third leading cause of death. This debilitating disorder is characterized by a reduced ability to metabolize and utilize carbohydrates.

#### **ALA helps normalize blood sugar levels.**

Non-insulin dependent diabetics (Type II) are characterized by either insulin resistance of peripheral cells or the inability of insulin receptors to utilize insulin efficiently. Skeletal muscles, particularly those of the extremities (arms and legs), lose their ability to absorb and utilize glucose, resulting in high levels of insulin in the blood. In these cases, insulin treatment is useless. (Packer 2001)

A notable study conducted in Germany reports that ALA, which has been used in the treatment of diabetes for over 30 years, enhances glucose disposal in Type II patients.

S. Jacob and colleagues reported on their study in *Arzneimittelforschung*: Two groups were selected that were comparable in age, body mass and duration of insulin resistance. *The group receiving ALA showed a significant increase of insulin-stimulant glucose disposal. Metabolic clearance for glucose rose by approximately 50 percent for the supplemental group, whereas the control group showed no significant changes.*

In a 1995 conference on diabetic neuropathy in Munich, Germany, researchers concluded that Alpha Lipoic Acid was the means of choice for *the prevention of diabetic complications, including neuropathy, cardiomyopathy, and retinopathy* (Zeigler 1997)

**Note: Diabetics should not take Alpha Lipoic Acid without being closely monitored by a physician as supplementation may result in a need to reduce insulin or oral anti-diabetic drugs.**

### **Energy Cofactor**

Alpha lipoic acid is a sulfur-containing compound that plays a vital role as the critical cofactor in the production of cellular energy. ALA aids in the conversion of carbohydrates into energy within the mitochondria, the "engine" of the cell where food is converted into energy. Key metabolic enzymes (alpha-keto acid, dehydrogenase complex enzymes, and branched chained alpha-keto dehydrogenase complex) require lipoic acid to break down molecules of pyruvate into smaller, high-energy molecules called acetyl-coenzyme A. As a consequence of this reaction, molecules can enter into a series of reactions called the citric acid cycle (Krebs cycle) and complete the conversion of food into energy.\*

### **ALA improves metabolism**

It also protects the body against harmful by-products of metabolism by attaching to enzymes to protect them from oxidation and allowing them to be reused by the body, rather than becoming oxidative refuse. In the Nov. 1999 issue of Free Radical Biology & Medicine, a published study showed that ALA specifically inhibits the oxidation of protein, LDL cholesterol, and cellular DNA.

### **An Anti-Obesity Agent**

Obesity shortens life expectancy and is a risk factor for hypertension and Type II diabetes. When added to the standard chow of Sprague-Dawley or Otsika Long-Evans Tohushima fatty rats, alpha lipoic acid (0.5%) reduced body weight and food intake. ALA also increased whole body energy expenditure. Additional long-term studies are needed to determine this possible mechanism of action (Expert Opin Investig Drugs, 2004).

### **Alpha Lipoic Acid & Aging**

Glucose (sugar) has been implicated in the aging process because of its ability to react with some proteins, such as collagen, to produce glycation, which can be described as the functional breakdown of protein.

As we age our blood sugar generally increases and so does the amount of glycation of the body's proteins. Alpha lipoic acid could help lower the rate of glycation. This is an important finding not only for diabetics, but also for all degenerative health conditions.\*

### **Other Reported Uses:**

#### **Alpha Lipoic Acid & Memory**

Feeding alpha lipoic acid and acetyl-L-carnitine to old rats improved performance on memory tasks by lowering oxidative damage and improving mitochondria function.\*

#### **Loss of Smell (Olfactory)**

Alpha lipoic acid may help regenerate loss of smell after a cold.\*

#### **How will alpha lipoic acid make you feel?**

Dr. Ray Sahelian, M.D., and author of [Alpha Lipoic Acid: The Unique Antioxidant](#), notes that the ingestion of ALA can often lead to a mild real feeling of well-being. He also reports a slight visual enhancement.

#### **Suggested Usage:**

Most studies suggest 100 mg per day.

For higher doses, it is suggested that you seek the advise of your physician.

\*The statements in this publication have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

**References**

Expert Opin Investig Drugs, 2004 Dec;13 (12): 1641-3.

Higdon, Jane, Micronutrient Information Center, Alpha-Lipoic Acid. Linus Pauling Institute, Oregon State University, July 2003.

Packer, L., et al., Molecular Aspects of lipoic acid in the prevention of diabetes complication. Nutrition 2001, Oct 17 (10) 888-95

Zeigler, D., Gries, F.A., Alpha lipoic acid in the treatment of diabetic peripheral and cardiac autonomic neuropath. Diabetes Research Institute at the Heinrich Heine University Dusseldorf, Germany, Sept 1997 (4-6) Suppl 2:56 2-6.

©2005 New Spirit Naturals, Inc.