



physician people are engaging the use of ALC in more intensive situations.

So while we think the word “treat” might be over the top, there’s no doubt that ALC is one of the most exciting anti-aging nutrients with very specific applications.

Dr. Bruce Ames, professor of biochemistry and molecular biology at the University of California, Berkeley, is among the most notable researchers who gave ALC a big boost when his laboratory found that it made up one half of a combination with alpha-lipoic acid that dramatically reversed the aging process in rats. The 2002 study was published in *The Proceedings of the National Academy of Sciences* (99;4:1870-75). While rats may not be a perfect model of the human body, scientists have said that the same benefits ought to accrue to us, too. Dr. Ames went so far as to say he had old rats dancing the “Macarena.” This exciting news kicked off intensive interest in both nutrients separately and together as a duo.

BACK STORY

Actually, ALC was first discovered in 1905. It is the acetyl ester of the amino acid L-carnitine, which

ALC for the Senile Brain and Peripheral Neuropathy

Acetyl L-carnitine (ALC) has become one of the hottest selling supplements today for anybody seeking higher energy levels, and while by no means is it a cure, it may be beneficial to counter dementia, diabetes and chemotherapy-related nerve damage.

In the March 2010 *Alternative Medicine Review* (15;1:76-83) researchers say, “ALC may be of benefit in treating Alzheimer dementia, depression in the elderly, HIV infection, peripheral neuropathies, ischemia and reperfusion of the brain, and cognitive impairment associated with various conditions.”

ALC is sold as a health supplement in the United States and for most of us, the big benefits are preventive in that it helps to maintain cognitive health and prevent further deterioration—although in specialized cases and working with a qualified

transports fats into the mitochondria. These fats are energy molecules the body needs to keep its cells running. When scientists track the fate of this form of carnitine in the human body when taken orally, about 60 percent breaks down to L-carnitine and 40 percent into ALC, showing how important ALC is to metabolic function. In fact, many scientists say ALC is far more potent and beneficial (in different ways) than L-carnitine (a powerful health-promoting nutrient in its own right).

Many studies have shown how helpful ALC is for people’s cognitive health and emotional well-being. ALC defends aged cells against lipid peroxidation, increasing the amount of antioxidant agents such as glutathione and ubiquinol. Furthermore, ALC protects the aged mitochondria, the energy factories of cells. Therefore, according to this evidence,

ALC must be considered a neuroprotective agent, especially in dementia, because of the following properties: (a) antioxidant action; (b) mitochondrial energy supply; (c) membrane stability function; and (d) nerve impulse transmission enhancement.

The aim of one study was to evaluate the efficacy and tolerability of ALC therapy in the senile brain. The trial was conducted on a double-blind basis, with a total of 40 patients divided into two groups of 20, given placebo or an ALC treatment for 40 days—the therapeutic regimen being two 500 mg tablets three times daily or 3,000 mg. Mental parameters of the senile brain were assessed at 0, 20, and 40 days of treatment, while basal and final values were recorded for a number of laboratory tests. Statistical analysis of results confirmed that short-term, intensive ALC treatment can determine a significant improvement of the main mental parameters of the senile brain, without incidence of significant side effects.

ALC can help to improve mental attitude. Sixty senile subjects (60-80 years old) with depression were randomized into two homogeneous groups, one of which was given ALC (3 grams per day) while the other received a placebo. After a wash-out phase of one week, each patient was evaluated at the beginning of the trial, prior to administration, and repeated during the phase after 30 and 60 days. The results showed that ALC induced a significant reduction, as compared to the placebo, in the severity of depressive symptoms and also a significant improvement in the items measuring the quality of life.

Help with neuropathy is also an important new area of use for ALC. In the March 16, 2010, issue of *Neuroscience*, researchers report that damage to the nervous system is prime cause of nerve damage (neuropathy) and chronic pain. "Current pharmacological treatments for neuropathic pain are not able to prevent or revert morphological and molecular consequences of tissue injury." Using ALC, they found, normalized levels of nerve growth factors and this also led to significant improvements in pain.

And that is just the start of the good nutritional news. Reporting in the April 2008 issue of *Pain* (135;3:262-70. Epub 2007 Jul 30) researchers independently confirm ALC helps to prevent painful peripheral neuropathy, which occurs among diabetics (as well as chemotherapy patients).

Basically, ALC improves energy pathways in

the body. So anybody who takes it is likely to begin dancing the Macarena just like the rats of Dr. Ames's study. The liquid delivery form of ALC provides the most easily absorbed version.

There's so much more benefit to ALC. ALC reduces cortisol levels and has anti-stress benefits. This is important for athletes and executives; cortisol is a catabolic hormone. It increases muscle tissue breakdown, not good for bodybuilders and other athletes. ALC helps the body to produce acetylcholine for nerve transmission, and statistically and significantly increased maximum running speed and endurance in a Russian study.

BENEFIT FROM ALC'S SUPERIOR ANTI-AGING COMPOUNDS

Although it's impossible to avoid the aging process, it is possible to keep cellular performance at its highest level and oxidative damage at its lowest level. By supplementing your daily diet with liquid ALC from Metabolic Response Modifiers (MRM), you can take an active role in actually decreasing the negative side effects of aging at the cellular level. Consider it a mitochondrial tune-up.

Fortunately, for us, the ester form, particularly when delivered in liquid form, is extremely well absorbed. This is important, as a therapeutic dose would appear to be 3,000 milligrams or three grams. We like Acetyl L-Carnitine Liquid from MRM. It is the only liquid on the market and supplies 1,000 milligrams per serving. The scientists at MRM were the first to develop a liquid Acetyl L-Carnitine supplement and it continues to be the only one of its kind on the market. ■



Resources

MRM's Acetyl L-Carnitine Liquid is available at health food stores and from health professionals. You can contact MRM to find a store near you. Call them toll-free at (800) 948-6296 or visit www.mrm-usa.com.

