

L-CARNITINE



CLINICAL APPLICATIONS

- Improves Cellular Energy Production
- Stimulates Fat Utilization and Boosts Metabolism
- Promotes Cardiovascular Health
- Supports Post-Training Muscle Recovery

ESSENTIAL AMINO ACIDS

L-carnitine is an amino acid essential for the transport of fatty acids into the cell mitochondria. Research has shown that L-carnitine stimulates the use of fat for fuel and boosts metabolism, which plays a key role in weight management. L-carnitine has also been found to support cardiovascular health and to increase aerobic capacity during exercise. The L-Carnitine formulation provides 500 mg of L-carnitine per capsule, now delivered using quick-release, fast-absorbing Licaps® Technology. The Licaps® capsule shell matrix seals and protects the nutrient inside with a nitrogen bubble, ensuring maximum freshness. The thin shell dissolves rapidly, releasing a liquid formulation that speeds nutrient absorption. These cutting-edge advancements in capsule filling, sealing and nutrient delivery ensure therapeutic potency and efficacy.

Overview

Produced in the body from L-lysine and L-methionine, the synthesis of L-carnitine requires optimal amounts of other key nutrients including niacin, pyridoxine, vitamin C and iron for synthesis. Following production, L-carnitine is transported to the cardiac and skeletal muscle, where 98% of total body L-carnitine is stored.¹ The heart and skeletal muscles, as well as many other tissues, depend on fatty acid oxidation as a source of energy. L-carnitine is an essential nutrient required for the transportation of long-chain fatty acids into the mitochondrial matrix. Within the mitochondria of each cell, a metabolic process called beta-oxidation occurs, resulting in the production of energy in the form of adenosine triphosphate (ATP). L-carnitine also aids in the transport of short-chain and medium-chain fatty acids out of the mitochondria and aids in the liberation of coenzyme A, an important component of ATP.

Depletion[†]

Some individuals require supplemental L-carnitine to maintain normal metabolism. In addition, L-carnitine requirements vary under certain conditions. For example, L-carnitine is removed from the circulation during hemodialysis. Impaired L-carnitine synthesis by the kidneys may also contribute to the potential for carnitine deficiency in patients with end-stage renal disease undergoing hemodialysis. The U.S. Food and Drug Administration has approved the use of L-carnitine in hemodialysis patients for the prevention and treatment of L-carnitine deficiency.² Additionally, certain medications including anticonvulsants and nucleoside analogues used in the treatment of HIV infection, may produce a secondary L-carnitine deficiency. Pivalic acid-containing antibiotics may also produce a secondary L-carnitine deficiency, as may certain chemotherapy agents.³

Muscle Recovery[†]

A double-blind, placebo, crossover study found that 2 g of L-carnitine had positive effects and significantly attenuated markers of purine metabolism, free radical formation, muscle tissue disruption, and muscle soreness after physical exertion.⁴ A randomized, placebo-controlled study suggested L-carnitine can improve exercise tolerance and muscle strength while decreasing lactic production.⁵

Energy Production and Metabolism[†]

L-carnitine is known to play a central role in metabolism, specifically in the production of energy from fatty acids. Dietary L-carnitine supplementation has been shown to have a metabolic effect, facilitating fatty acid oxidation in overweight animals undergoing rapid weight loss.⁷ In a human

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performance controlled trial, a study group given L-carnitine increased their exercise output by 11% from baseline, while the control group showed no change. These changes were also associated with an improvement in exercise performance.⁸

Cardiovascular Health[†]

Administration of L-carnitine has been shown to support the health of myocardial tissues in a number of experimental model systems and to improve cardiovascular wellness.⁹ In a controlled study of 160 patients, L-carnitine was randomly administered to 81 patients at a dose of 4 g/day for a year. During the study, the patients showed an improvement in heart rate, maintained healthy blood pressure, heart rhythm and myocardial contractility, while demonstrating a decrease in mortality.¹⁰ In a study of 80 cardiovascular patients, randomly assigned to receive either L-carnitine (2 g/day orally) or placebo, for a mean range of 10 to 54 months, analysis showed that the patients' survival rate was statistically significant in the L-carnitine group.¹¹

Directions

1 capsule three times per day or as recommended by your health care professional.

Does Not Contain

Gluten, corn, yeast, artificial colors or flavors.

Cautions

If you are pregnant or nursing, consult your physician before taking this product.

Supplement Facts V3		
Serving Size 1 Capsule		
Servings Per Container 60 & 120		
1 capsule contains	Amount Per Serving	% Daily Value
L-Carnitine	500 mg	*
* Daily Value not established		

ID# 730060 60 Capsules

ID# 730120 120 Capsules

References

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