

Super L-Carnitine

Part of the 2X Fat-BURN Accelerator 2 Pak

Super L-Carnitine helps Burn Fat

The primary function of Carnitine is to facilitate the transport of fatty acids from the cell's cytoplasm across the mitochondria membrane to the interior of the mitochondria where oxidation occurs. (Fat-burning process.) Without Carnitine as a carrier, the fatty acids are unable to penetrate the membrane of the mitochondria. This will result in a decreased rate of fat utilization and energy. L-Carnitine also helps to remove by-products of fatty acid metabolism and other toxic compounds from within the cells.

IMPORTANT NOTE: Super L-Carnitine is a **PRE** and **POST** formulation. Here's what this means:

Typically, a fitness enthusiast will take one (1) tablespoon before (pre) a cardiovascular workout (of at least 40 minutes continuous duration) and then one (1) tablespoon directly after (post) that workout. On non-cardio days you do not need to take this formulation at all.

Super L-Carnitine is essential for fat burning. I.B. Fritz and K.T.N. Yue, physiologists from the University of Michigan, discovered that Carnitine actually accelerates fat-burning. Without it, fat is unable to penetrate the walls of the mitochondria of the muscle cells. Carnitine is the shuttle that carries fat into your body's furnaces (muscles) to be burned for energy. Super L-Carnitine increases the rate of fat utilization for fuel.

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An Analogy:

Imagine your blood stream is a river. Your body-fat cells are little people in boats floating down the river to reach their final destination: The Muscle Hotel, (muscle tissue where fat will be burned as fuel for energy). But when they arrive, they find the door too heavy to open. Super L-Carnitine is the doorman to the Muscle Hotel. It allows your body-fat to more easily enter (permeate) your muscle tissue to be burned as fuel energy.

More about Carnitine

Carnitine is a vitamin-like nutrient, which is similar to choline and a close cousin to the amino acids. However, unlike amino acids, L-Carnitine is not used for protein synthesis. Carnitine was given "B vitamin" status because it has the characteristics of the B-complex group (it contains nitrogen and is highly water soluble). Additionally, Carnitine is not a vitamin since it can be biosynthesized. {Note: A vitamin by definition is a substance, which is essential to the body but cannot be produced by the body and must therefore be obtained in the diet.}

Carnitine, like many biological molecules, is available in two forms: L-Carnitine and DL-Carnitine. These two forms, or isomers, are mirror images of each other. However only the L-isomer is physiologically effective. DL-Carnitine is a competitive inhibitor of L-Carnitine in several metabolic processes. Only L-Carnitine is found in natural foods.

Exogenous carnitine can be obtained in one of two ways:

1. L-Carnitine is normally obtained from dietary sources. Foods derived from animals are generally rich in L-Carnitine, whereas plant foods and vegetables contain little or none. Meat is by far the richest source of L-Carnitine.

*A vegetarian diet is typically low in L-Carnitine and in the amino acids needed for its biosynthesis (L-lysine and L-methionine).

2. L-Carnitine can also be obtained through dietary supplementation. Supplemental L-Carnitine is usually available in a concentrated liquid form, or as part of a lipotropic complex (dosages may vary.)

The results of recent research demonstrates the beneficial effects of supplemental L-Carnitine when used prior to strenuous physical activity. In a pilot study involving college students, subjects receiving 300 mg doses of L-Carnitine experienced dramatic increases in aerobic capacity as determined by the Max VO₂ (maximal volume of oxygen consumed).

L-Carnitine Side Effects and Toxicity

Carnitine is completely safe, with the possible exception of mild diarrhea at very high doses. The Life Sciences Research Office of the Federation of American Societies for Experimental Biology (FASEB), under contract with the Bureau of Foods at the Food and Drug Administration, published a comprehensive review entitled "Health Effects of Dietary Carnitine" in 1983. They reported that in studies where 1 to 15 grams of L-Carnitine were given as a normal supplement, the only side-effect was transient diarrhea. [NOTE: Large amounts of most substances will induce diarrhea due to an increase in osmotic pressure in the bowel].

The lethal dosage of Carnitine in mice has been determined to be 8.9 kilogram body weight when given by subcutaneous injection (under the skin). For a 60 kilogram person, this would be equal to 540 grams, or well over one pound! The oral lethal dosage has ever been reported. This may be contrasted to aspirin, whose oral lethal dosage in mice is 1.1 grams per kilogram body weight. In humans, the oral consumption of 20 grams of aspirin is potentially lethal. Carnitine, therefore, is not only safer than aspirin, it is in fact one of the least toxic substances on earth.

Each tablespoon (15cc) of Super L-Carnitine Formula contains:

L-Carnitine	500 mg.
Pyridoxine HCl	5 mg.
Chromium Polynicotinate	50mcg.

Total Content of L-Carnitine mg / 100 grams Raw Food

Sheep	210.00
Lamb	78.00
Beef	64.00
Pig	30.00
Rabbit	21.00
Chicken	7.50
Cow's Milk	2.00
Eggs	0.80
Peanuts	0.10

Lipotropic Plus

Part of the 2X Fat-BURN Accelerator 2 Pak

Lipotropic Plus is a Lipid Transport

The Lipotropic Plus Formula is scientifically-engineered to assist in the breakdown, distribution and burning (oxidation) of fatty acids. The active ingredients actually **accelerate** the fat-burning process by breaking down fat cells into smaller particles (emulsification) to be used for **fuel** during exercise.

IMPORTANT NOTE: Lipotropic Plus is a **PRE** and **POST** formulation. Here's what this means:

Typically, a fitness enthusiast will take 2-3 tablets 30 minutes before (pre) a cardiovascular workout (of at least 40 minutes continuous duration) and then another 2-3 tablets directly after (post) that workout. On non-cardio days you do not need to take this formulation at all.

This breakdown or emulsification of fat cells into smaller particles is similar to how soap breaks down grease on dishes.

The Lipotropic Plus Formula contains a concentrated source of lipotropic factors that work synergistically to help maximize this process. Additionally, the Lipotropic Formula helps to increase levels of energy and stamina during exercise while providing resistance to fatigue.

An Analogy

Here is a good analogy of how an emulsifier (fat-burner) works. Open a can of vegetable soup. Floating on the top are big fat globules and little fat globules. Imagine these globules represent your body-fat traveling through your bloodstream to your muscle tissue where they will eventually be burned as fuel. The smaller fat globules will get there first because they travel more freely and efficiently. Lipotropic Plus helps in the breakdown (emulsification) of body-fat.

Ingredient Summary

L-Carnitine - Carnitine is a vitamin-like nutrient and is essential for energy production and fat metabolism. Carnitine's major metabolic role is associated with the transport of long chain fatty acids across the mitochondrial membranes, therefore stimulating the oxidation of these substrates for metabolic energy.

Choline (Bitartrate) - Choline (Bitartrate) is considered one of the B-complex vitamins and functions with inositol as a basic constituent of lecithin. Choline is associated primarily with the utilization of fats and cholesterol in the body. Its main function is to prevent the accumulation of fats in the liver and facilitate the movement of free fatty acids into the cells for utilization. In addition, choline plays an important role in the transmission of the nerve impulses and is essential for the health of the myelin sheaths which are principle components of the nerve fibers. Since choline helps to emulsify fats and cholesterol, it has also been shown to be useful in the treatment of atherosclerosis and hardening of the arteries.

L-Methionine - L-Methionine is an essential amino acid which participates in the formation of nonprotein cellular constituents such a choline. Methionine is also the precursor of the nonessential amino acids cystine, carnitine, and taurine - all of which have widespread metabolic functions.

Trimethylglycine - Trimethylglycine is a naturally occurring metabolite and is manufactured in the body when there are sufficient quantities of its dietary precursors choline and methionine. Trimethylglycine donates its three methyl groups to a vital biochemical process known as transmethylation. During this process eight amino acids are transformed to more than 100 other specialized amino acids. Additionally, methyl donors act as biochemical catalysts which enhance cellular reactions, thereby promoting metabolic efficiency. Methyl donors also play a major role in the oxygenation of the blood; with more methyl groups available, more oxygen can be delivered to the muscles. Methyl donors such as trimethylglycine are also involved in the synthesis of protein and nucleic acid (DNA and RNA) and in maintaining the integrity of the nervous system.

L-Glycine - This amino acid serves at the basic nitrogen pool for the synthesis of nonessential amino acids and is an important element in the structure of red blood cells. Glycine is also required for the synthesis of creatine, an important source of muscular energy and is also necessary for the biosynthesis of glucose, RNA, and DNA. The most recognized symptom of glycine deficiency is a loss of energy.

Vitamin B6 (pyridoxine) - Vitamin B6 is a water soluble vitamin and is required for the proper absorption of vitamin B12, and for the production of hydrochloric acid and magnesium. Vitamin B6 helps linoleic acid function better in the body and plays a major role in the breakdown and utilization of carbohydrates, fats and proteins. In addition, vitamin B6 facilitates the release of glycogen from the liver and skeletal muscles so that it can be used for energy. Vitamin B6 also helps to maintain the balance of sodium and potassium, which regulate body fluids and promote the normal functioning of the nervous system and skeletal muscle system.

Each Three (3) Caplets Contain:

L-Carnitine	300 mg.
Choline (Bitartrate)	250 mg.
Trimethylglycine	500 mg.
L-Methionine	100 mg.
L-Glycine	500 mg.
Pyridoxal 5 Alpha Ketoglutarate	10 mg.