

L-Carnitine

Although the body can, in principle, synthesize L-carnitine from the amino acids lysine and methionine, a deficiency is still possible, predominantly in various health conditions such as sustained unhealthy blood sugar levels. Carnitine is crucial for providing human cells with energy.

Basic Facts

L-carnitine was discovered in meat as early as the beginning of the 20th century, and its chemical structure revealed in the subsequent decades. However, it was only in the second half of the century that carnitine's important role in providing energy for the muscles was realized and investigated. L-carnitine is necessary for transporting fatty acids to the mitochondria, the «power plants» of the cells. In the absence of this needed «fuel» for the mitochondria, the provision of energy would not occur.

All cells in the body, particularly the muscle cells and especially the heart muscle with its continuous load, are dependent on a constant supply of fuel.

Therefore, in all cells, a deficiency in carnitine presents itself as an impairment of the cell's natural functions. Muscle cells have the highest need for energy and, consequently, they contain most of the carnitine present in the body.

The main food source of L-carnitine is meat and to a lesser extent milk and milk products. As a rule, healthy people – even those who are vegetarian – do not usually suffer from deficiency, as the body can synthesize carnitine from protein-building substances. However, this synthesis may be impaired in the presence of certain health conditions like unhealthy blood sugar levels, liver conditions and the like.

It is important to note that, particularly when disease is present, it is often recommended for other reasons to eat a diet containing very little meat.

Effects

L-carnitine supports the provision of energy within the cells, particularly the cells comprising muscle tissue. Cells that suffer from a lack of oxygen or other impairments cannot produce sufficient amounts of carnitine. Therefore, organs with pre-existing impairment derive the greatest benefits from L-carnitine supplementation.

What occurs in the body when disease is present can also happen on a smaller scale within individual cells or tissues that are subjected to stress caused by contaminants or lack of oxygen. The result can be a transient and locally restricted deficiency in L-carnitine, which makes the cells particularly susceptible to stress and can lead to a vicious circle of reduced energy provision and slowed carnitine production.

Sufficient energy provision is not only important for the muscle cells. Positive effects of L-carnitine on the nerve cells in the brain, on liver cells and on sperm cells have also been noted. A well-balanced energy-production system allows the cells to purify themselves, to deal with foreign substances, to convert stored fat and finally, to fulfill all of their physiologic functions.

Uses

The most important indications for L-carnitine supplementation are derived from the effects described above and the various health conditions where states of deficiency can occur in individual organs:

General health: L-carnitine encourages the healthy conversion of fat into energy. This leads to optimal performance and well-being because the body has more «fuel» at its disposal. Also, carnitine's antioxidative properties help the body to fight cell-damaging free radicals, which are responsible for numerous diseases and most likely for the aging process as well. An additional positive side effect is that carnitine also helps to maintain a healthy weight by converting stored body fat.

Cardiovascular health: Cardiovascular health is the main field of application of L-carnitine. Cardiovascular concerns can



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- ▶ Enhances energy provision within the cells
- ▶ Supports the degradation of lipids
- ▶ Plays an important role in cellular detoxification
- ▶ Protects the heart muscle from a lack of oxygen
- ▶ Supports the recuperative capacity of muscle fibers after endurance-induced strain

At a Glance

L-Carnitine

include unhealthy blood flow, negative effects that occur after a cardiac infarction, cardiac insufficiencies of any cause, and cardiac irregularities. It helps to maintain healthy cholesterol levels within normal ranges by promoting normal cholesterol and triglyceride levels and optimal levels of HDL cholesterol (the «good» cholesterol). These actions help to protect against cardiovascular disease since they discourage the deposit of calcium in the blood vessels. By supporting sufficient oxygen supply to the cells, L-carnitine also has a direct protective effect on the heart. Optimized oxygen supply to the heart is of particular importance, as the heart is a muscle that is under continuous stress and therefore is in particularly great need of oxygen.

Nervous system health: L-carnitine seems to have a direct influence on acetylcholine, a neurotransmitter that is essential for many brain functions. This can be assumed simply due to the similarity of their chemical structures. When researchers administered carnitine in cases of certain types of cognitive decline that are caused by a deficiency in acetylcholine, the results were very encouraging. L-carnitine's antioxidant properties allow it to support healthy brain cells, increase energy yield and take over almost all of the functions of acetylcholine. L-carnitine also proved to be successful in certain mood disorders associated with cognitive decline which are caused, in part, by altered biochemical processes in the brain.

To encourage the health of other organs, for instance, the liver, supplementation can be tried in support of other measures.

Unhealthy sugar and fat metabolism are other areas of indication.

Lastly, the supportive administration of L-carnitine in sports medicine during training for any kind of endurance sport should be mentioned as an established application.

Composition

One capsule contains 500 mg L-carnitine in pharmaceutical grade.

Other ingredients: magnesium stearate, SiO₂.

Dosage

In normal cases take 1–2 capsules 1–2 times a day with plenty of fluid. Often, combining with coenzyme Q10 proves to be practical.






Instructions

Food supplements are no substitute for a well-balanced diet and a healthy lifestyle. The indicated recommended daily intake should not be exceeded. Persons under constant medical care should consult a physician before taking the supplements. Product information is not to be considered a statement regarding cure; in general, we advise against self-medication without proper consultation of a doctor. Subject to mistakes and print or typographical errors.

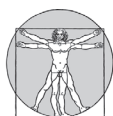
Store in a cool and dry environment, out of reach for children.

Carnitine Product Groups

L-carnitine can be found in the following product groups (www.vitabasix.com):

-  **Cardiovascular System**
-  **Detoxification & Purification**
-  **Power & Energy**
-  **Sports & Muscles**
-  **Metabolism & Weight**

Manufacturer:



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Important information:

Our products are manufactured in accordance with the GMP (Good Manufacturing Practice) standard. Their quality, purity and concentration are regularly tested in independent test laboratories, in keeping with the FDA (Food and Drug Administration) guidelines.

Our products should be regarded as preventive measures or measures to enhance the individual's general wellbeing. Patients must consult a doctor before using the products for the treatment of diseases.

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