Coenzyme Q10

(Hypoallergenic)

Item no. 71210 (30 mg)
Available in bottles of 30 capsules
Item no. 71220 (50 mg)
Available in bottles of 75 capsules

The Possible Benefits of Coenzyme Q10, a Dietary Supplement

- Can enhance the production of cellular energy (ATP), through its role as an essential metabolite in the Electron Transport Chain
- As a oil-soluble antioxidant, protects the mitochondrial membrane against lipid peroxidation
- Supports the function of the cardiovascular system, the immune system, and the health of the gums

Description

Coenzyme Q10 (CoQ10) is essential for the health of our cells, tissues and organs. It belongs to a family of lipid soluble ubiquinones, present throughout the body, and occurring in the cells of all plants and animals. Among the coenzyme Q compounds that exist in nature, coenzyme Q10 is the predominant form found in humans. It is most concentrated in cells of the heart, liver, kidney and pancreas. The body's production of CoQ10 peaks around age 20 and then declines, and dietary sources do not provide adequate levels. For many decades, supplemental CoQ10 has been used throughout Europe, Asia, and the United States for its support of cardiovascular health, cellular energy, and antioxidant function.

CoQ10 plays an essential role in the mitochondrial Electron Transport Chain (ETC), the major metabolic pathway for making energy in every cell of the body. The ETC is the third step in the process of cellular respiration, following glycolysis and the Krebs Cycle. The Electron Transport Chain is the step where most of the energy locked in the original glucose molecule is released. The ETC is a "bucket brigade" of electron-carrying proteins located in the inner membrane of the mitochondria, which transfer electrons from one to another down the chain. This eventually produces water and a gradient through which ATP, our cellular "energy currency," is made.

CoQ10 functions as an electron carrier in the ETC. Because it is lipid-soluble, it is a mobile "messenger" in the cellular membrane, linking the various enzymes of the chain. Every pair of electrons processed by the chain must first interact with CoQ10. Optimal electron transport to generate ATP depends upon optimal levels of CoQ10 in the mitochondrial membrane. Without enough CoQ10 our energy efficiency would fall markedly, and maintenance of homeostasis would be impaired.

In addition to being essential for generating energy, CoQ10 is an important antioxidant. Because it is fat-soluble, CoQ10 is well-suited to protect the mitochondria from free radical damage. The process of electron transport produces oxygen free radicals, which are then trapped by CoQ10, working with another fat-soluble antioxidant, vitamin E. CoQ10 works synergistically with vitamin E, helping to spare it. Studies have shown that CoQ10 reduces the initiation and propagation of lipid peroxidation in cell membranes and in lipoprotein fractions, and under normal conditions, it is found at higher concentrations in the mitochondria than is vitamin E. As with other antioxidant nutrients, CoQ10 is subject to increased turnover in the body as a result of stress or other situations that tend to increase free radical load in the body, such as smoking, alcohol intake, radiation exposure, and use of some medications including chemotherapy agents.

CoQ10 has been extensively studied for its ability to support cardiovascular function. Studies suggest that CoQ10 may reduce the frequency of angina episodes and strengthen the heart muscle. It has been shown to increase quality of life, breathing, heart rate, and survivability in those with congestive heart failure, and to help normalize high blood pressure. It can also benefit those taking cholesterol-lowering medications, which can reduce blood levels of CoQ10.

One study involving 80 patients with early

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Parkinson's disease showed that CoQ10 helped prevent the development of disability. Other studies show that CoQ10 may enhance weight loss, benefit chronic fatigue, support sperm count, sperm motility and fertilization, and protect against the side effects of beta-blockers and some other medications. Reported uses of CoQ10 include support of patients receiving chemotherapy, and enhancement of insulin production for those with blood sugar irregularities. CoQ10 deficiency is linked to both muscular dystrophy and gum disease.

CoQ10 may support enhanced aerobic capacity and physical performance. Additionally, perhaps through its support of cellular energy, CoQ10 has been shown to improve several immune parameters in both animals and humans. According to Dr. Karl Folkers, the "father" of CoQ10 research in the United States, "a deficiency in bioenergetics could impair production of antibodies."

Coenzyme Q10 is well tolerated, with an extensive history of study and safe use.

Each capsule contains:

Vitamin C (as Ascorbic Acid)	270 mg (#71210), or 50 mg (#71220)
Coenzyme Q10	30 mg (#71210), or 50 mg (#71220)

Other ingredients: Stearic acid.

Suggested Use: As a dietary supplement, 1 or 2 capsules two to three times daily with meals, or as directed by a healthcare practitioner.

Note: This is the dry form of CoQ10 and would be best absorbed when taken with fat.

Selected References (more available upon request)

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Allergy Research Group®
30806 Santana Street; Hayward, CA 94544
Phone: 800-545-9960 / 510-487-8526
Fax: 800-688-7426 / 510-487-8682
www.AllergyResearchGroup.com

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December- 2002