

Citrus-Q₁₀TM 300

Coenzyme Q10 for Cardiovascular Support

DESCRIPTION

Citrus-Q₁₀TM 300, provided by Douglas Laboratories®, supplies naturally fermented coenzyme Q10 in a great tasting, natural citrus flavored fast dissolving tablet. Citrus-Q₁₀ 300 contains no sugar, artificial colors or flavors and is suitable for vegetarians.

FUNCTIONS

Coenzyme Q10 (or ubiquinone) is an important rate-limiting nutrient that is a cofactor in the mitochondrial electron transport chain, the biochemical pathway in cellular respiration from which adenosine triphosphate (ATP) and metabolic energy is derived. Since nearly all cellular activities are dependent upon energy, coenzyme Q10 is essential for the health of all human tissues and organs.

Coenzyme Q10 is a naturally-occurring antioxidant nutrient which retards free radical formation in biological systems. Coenzyme Q10 resembles vitamin E and vitamin K in chemical structure. Biochemically, it functions much like vitamin E in that it participates in certain antioxidant and free radical reactions. Healthy humans who consume a well-balanced diet have the ability to synthesize coenzyme Q10. Unhealthy individuals, those on lipid lowering drugs and those consuming an inadequate diet may not synthesize coenzyme Q10 in sufficient quantity. According to Dr. Karl Folkers and other experts, humans can biosynthesize coenzyme Q10 from tyrosine or phenylalanine and mevalonic acid, which are small molecules abundant in the body. This is a complex biochemical process that requires 15 separate steps and many enzymes, coenzymes, vitamins and minerals. Only by such a process can the respiratory chain receive proper levels of coenzyme Q10.

Thus, the biosynthesis of coenzyme Q10 in the human body requires a good diet – one that is high in vitamins, minerals, and other nutrient factors. It has been shown by the NHANES studies that many Americans do not have an adequate diet. Rather, their intake of most water soluble vitamins, vitamin A and

some minerals and trace elements is insufficient. Many of these nutrients are essential for the biosynthesis of coenzyme Q10. In addition, it has been shown that in disease states, nutrients from food sources may not necessarily be absorbed or available. According to some experts, coenzyme Q10 should be considered an essential nutrient, as it is well established that coenzyme Q10 is essential for the health of every cell in the human body.

Numerous studies indicate coenzyme Q10 also plays an important role in the maintenance of the entire cardiovascular system. Supplementation with coenzyme Q10 in patients has shown to be useful for the maintenance of already healthy blood pressure. Coenzyme Q10 is also important for the maintenance of blood vessels and heart muscle function. In addition, people taking statin drugs can develop deficiencies in coenzyme Q10 and may require supplementation.

INDICATIONS

Citrus-Q₁₀ 300 may be a useful dietary adjunct for individuals whose coenzyme Q10 requirements are not met through biosynthesis of the molecule.

FORMULA (#99950)

Each Tablet Contains:

Natural Coenzyme Q10 300 mg

Other ingredients: Mannitol, cellulose, povidone, citric acid, natural lemon/lime flavor, silica, vegetable stearate, natural orange flavor and sorbitol

SUGGESTED USE

Adults take 1-4 tablets daily or as directed by your health care professional. Allow tablet to dissolve in mouth and swallow. Not a sublingual tablet.

SIDE EFFECTS

No adverse side effects reported.

STORAGE

Store in a cool, dry place, away from direct light. Keep out of reach of children.

(continued on reverse)

REFERENCES

- Folkers K. Relevance of the biosynthesis of coenzyme Q10 and of the four bases of DNA as a rationale for the molecular causes of cancer and a therapy. *Biochem Biophys Res Commun* 1996;224:358-61.
- Folkers K, Osterborg A, Nylander M, Morita M, Mellstedt H. Activities of vitamin Q10 in animal models and a serious deficiency in patients with cancer. *Biochem Biophys Res Commun* 1997;234:296-9.
- Folkers K, Simonsen R. Two successful double-blind trials with coenzyme Q10 (vitamin Q10) on muscular dystrophies and neurogenic atrophies. *Biochim Biophys Acta* 1995;1271:281-6.
- Hofman-Bang C, Rehnqvist N, Swedberg K, Wiklund I, Astrom H. Coenzyme Q10 as an adjunctive in the treatment of chronic congestive heart failure. The Q10 Study Group. *J Card Fail* 1995;1:101-7.
- Hofman-Bang C, Rehnqvist N, Swedberg K, et al. Coenzyme Q10 as an adjunctive treatment of congestive heart failure. *J Am Coll Cardiol*. 1992;19:216A.
- Koroshetz WJ, Jenkins BG, Rosen BR, Beal MF. Energy metabolism defects in Huntington's disease and effects of coenzyme Q10. *Ann Neurol* 1997;41:160-5.
- Langsjoen PH, Langsjoen A, Willis R, Folkers K. Treatment of hypertrophic cardiomyopathy with coenzyme Q10. *Mol Aspects Med* 1997;18:S145-51.
- Langsjoen PH, Langsjoen JO, Langsjoen AM, Lucas LA. Treatment of statin adverse effects with supplemental Coenzyme Q10 and statin drug discontinuation. *Biofactors*. 2005;25(1-4):147-52
- Langsjoen H, Langsjoen P, Langsjoen P, et al. Usefulness of coenzyme Q10 in clinical cardiology: a long-term study. *Mol Aspects Med*. 1994;15(suppl):S165-S175
- Mortensen SA, Leth A, Agner E, Rohde M. Dose-related decrease of serum coenzyme Q10 during treatment with HMG-CoA reductase inhibitors. *Mol Aspects Med* 1997;18 Suppl:S137-44.
- Sander S, Coleman CI, Patel AA, Kluger J, White CM. The impact of coenzyme Q10 on systolic function in patients with chronic heart failure. *J Card Fail*. 2006 Aug;12(6):464-72.

**These statements have not been evaluated by the Food and Drug Administration.
This product is not intended to diagnose, treat, cure, or prevent any disease.**

**Manufactured by
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