**What is CoQ۱۰?**

Coenzyme Q۱۰ (CoQ۱۰), also known as ubiquinone, is a proenzyme produced naturally within the body. CoQ۱۰ plays a critical role in energy (ATP) production and is one of the most powerful known lipidsoluble antioxidants, protecting cells, organs and tissues from damage caused by oxidative stress and free radicals. CoQ۱۰ inhibits protein and lipid oxidation and protects mitochondrial DNA from oxidative damage. This CoQ۱۰ formulation is delivered in an oil-based proprietary form and includes natural vitamin E for enhanced absorption and maximum stability.

**Overview**

CoQ۱۰ is a lipid-soluble antioxidant found in every cell in the body. CoQ۱۰ is abundant in the mitochondrial membrane and plays an important role in the synthesis of adenosine triphosphate (ATP), a molecule of chemical energy upon which all cellular functions depend. The synthesis of ATP within the mitochondria is a multi-step series of biochemical reactions called the electron transport chain. As a coenzyme, CoQ۱۰ is required for several enzymatic reactions required to produce cellular energy and to protect the body against free radicals produced during this process. To maintain energy production, mitochondrial CoQ۱۰ is continuously recycled from ubiquinone, its ATP production state, to ubiquinol, its antioxidant state. After the age of 35 to 40 years, endogenous synthesis of CoQ۱۰ begins to decline. CoQ۱۰, an essential component of cellular energy production, has been shown to extend cell life and benefit high-energy systems, namely the cardiovascular, neurological and immune systems.

**CoQ۱۰ Depletion†**

The body’s ability to produce and metabolize CoQ۱۰ has been reported to decrease with age. CoQ۱۰ deficiency may be caused by insufficient dietary intake of CoQ۱۰, impairment in CoQ۱۰ production, drug-induced CoQ۱۰ depletion, gene mutations and oxidative stress. HMG-CoA reductase is an enzyme required for the synthesis of cholesterol and CoQ۱۰. Cholesterol lowering medications inhibit this enzyme in order to reduce cholesterol synthesis, but may also simultaneously deplete CoQ۱۰ status. Thirteen controlled studies conducted between 1990-2004 demonstrated significant CoQ۱۰ depletion, secondary to use of statin medications used to lower cholesterol levels. These studies demonstrated a range of 19-54% decrease in CoQ۱۰ levels in patients on statin therapy. In the event of CoQ۱۰ depletion, supplementation can improve CoQ۱۰ status and help maintain optimal levels in the body.

**Cardiovascular Health†**

CoQ۱۰ is important for all energy-dependent processes, and is especially helpful in strengthening contraction of the heart muscle. CoQ۱۰ is also important for protection against free radical damage to the arterial vessels. In a double-blind, crossover trial 19 patients received 100 mg CoQ۱۰/day or placebo for 12 weeks. Compared with placebo, patients receiving CoQ۱۰ demonstrated significant support of cardiac function and...
increased tolerance for physical activity. In another study, 109 patients received an average dose of 225 mg of CoQ₁₀ per day. After a mean treatment period of 4.4 months, CoQ₁₀ helped in maintaining healthy blood pressure levels in more than half of the patients. CoQ₁₀ has been shown to be a preventive factor in reducing low-density lipoprotein (LDL) oxidation— a major factor for supporting healthy cholesterol levels.

**Blood Sugar Balance†**
The electron transport chain, a biochemical pathway in which CoQ₁₀ plays a major role, significantly impacts carbohydrate metabolism. CoQ₁₀ has been shown to support blood sugar balance already within normal levels. In one study, 39 subjects received 120mg of a CoQ₁₀ analog for 2-18 weeks. Fasting blood sugar levels were maintained in the normal range, along with a 30% decrease of ketone bodies in 59% of patients— an indicator of healthy blood sugar metabolism.

**Neurological Health†**
Neurons are characterized by high rates of metabolic activity and the need to respond quickly to energy demanding fluctuations in the brain. Mitochondrial alterations, leading to reduced ATP production, can promote neuronal dysfunction and degeneration via increased production of reactive oxygen species in the central nervous system. As an effective carrier with strong antioxidant properties, CoQ₁₀ has been shown to promote neurological health.

**Directions**
1 or more soft gel capsules per day or as recommended by your health care professional.

**Does Not Contain**
Wheat, gluten, dairy products, fish, shellfish, peanuts, tree nuts, egg, artificial colors, artificial sweeteners or preservatives.

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**References**