

CoQ10 (Ubiquinol)

The Active Form of CoQ10



CoQ10 is present in every cell of the body and is vital in sustaining life. It is the most concentrated in the highest energy demanding organs of the body, including the heart, kidneys, muscles, brain and liver. Its primary functions include acting as a “spark plug” for around 95% of all cellular energy production as part of the electron transport chain inside the cell’s mitochondria as well as providing dual antioxidant defenses.

The two well-known forms of CoQ10 in the body are ubiquinone (oxidized form) and ubiquinol (reduced form). In a healthy body, 95% or more of CoQ10 levels are present as ubiquinol. Only the ubiquinol form possesses antioxidant activity. Ubiquinol provides dual antioxidant support by both directly quenching free radicals to protect cells and indirectly by recycling vitamin C, vitamin E, and lipoic acid, other important cellular antioxidants.

A majority of CoQ10 is derived from internal synthesis in the liver but can also be found in small amounts in the diet from foods such as organ meats, fatty fish and some oils. When CoQ10 is synthesized in the body, it is made in its ubiquinone form and must be converted into ubiquinol in order to generate the energy necessary to sustain life and protect the cells as an antioxidant. This conversion becomes impaired with age, usually beginning between 30 - 40 years of age even in those who are generally considered to be healthy. Internal synthesis of CoQ10 also declines with age, further contributing to depleted CoQ10 levels in the body. Excess oxidative stress is another factor that contributes to depleted CoQ10 levels. It impairs CoQ10 conversion by decreasing selenium levels, which is required for CoQ10 conversion. In addition, oxidative stress requires the body to use large amounts of CoQ10 and other antioxidants to quench the free radicals that it produces, leading to decreased CoQ10 levels. Factors that promote oxidative stress include chronic disease such as diabetes, heart disease and cancer, infections, smoking, alcoholism, excess physical activity, and excess ultraviolet radiation exposure.

In addition to age and oxidative stress, there are many drugs that are known to deplete CoQ10 levels in the body. The class of drugs that are the most well-known for having this effect are the HMG-CoA reductase inhibiting statin drugs, including lipitor, pravachol, crestor and zocor. Statins are the most prescribed drugs in United States. Internal CoQ10 synthesis is also

SUPPLEMENT FACTS

Serving Size: 1 Softgel
Servings per Container: 30

	Amount Per Serving	%DV*
Kaneka Ubiquinol™ (Reduced Coenzyme Q-10)	100 mg	*

Percent Daily Value based on a 2,000 calorie diet.

* Daily value not established

Other Ingredients: D-Limonene Oil, Gelatin, Ubiquinol, Glycerin, Purified Water, Caprylic Acid, Capric Acid, Caramel Liquid, Alpha Lipoic Acid.

Suggested Use: As a dietary supplement, take one (1) softgel one to three (1-3) times daily with meals or as recommended by your healthcare professional.

Formulated To Be Free of Allergens Derived From: Wheat, gluten, soy, dairy, eggs, fish, crustacean shellfish, tree nuts, peanuts, artificial preservatives, sweeteners, color and flavors.

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



dependent on the HMG-CoA reductase enzyme and when these drugs are used, both cholesterol and CoQ10 production are lowered. A double-blind placebo controlled trial showed that statin use lowered plasma CoQ10 levels by as much as 40% in 3 months.¹ This can lead to many debilitating symptoms associated with inadequate energy production and/or poor antioxidant defenses. Failing to replenish CoQ10 levels while on a statin drug can lead to severe, debilitating symptoms including muscle pain, weakness, fatigue and poor memory. Other drugs known to deplete CoQ10 levels include acid blockers, antacids, antibiotics, antidepressants, blood pressure medications, diuretics and many diabetes medications.²

COMMON SIDE EFFECTS OF CoQ10 INSUFFICIENCY

- Muscle weakness and pain (myalgia)
- Fatigue
- Brain fog
- Poor memory
- Depression
- Immune suppression
- Sexual dysfunction

THE ACEVA CoQ10 (UBIQUINOL) DIFFERENCE

Aceva CoQ10 (ubiquinol) contains the lipid-stabilized, active form of CoQ10 called ubiquinol from Kaneka QH®. CoQ10 products containing ubiquinone, the inferior form of CoQ10, must first be converted into ubiquinol before providing physiologic benefits. A comparison of studies has shown that it takes 8x less ubiquinol compared to ubiquinone to achieve the same increase in CoQ10 blood levels.^{3,4} Using Aceva's CoQ10 (ubiquinol) takes the guesswork out of absorption and helps conserve the body's precious resources to provide a clinically significant result.

CoQ10 RESEARCH

Parkinson's Disease: a dose of 300, 600 or 1,200 mg/day of *ubiquinone* in a multicenter, randomized double-blind, placebo controlled trial resulted in less disability in Parkinson's Disease patients, with the greatest benefits seen in subjects receiving the highest dosage.⁴

Migraines: 150 mg/day *ubiquinone* for 3 months reduced migraine headache frequency by 60%.⁵

Fibromyalgia: 300 mg/day *ubiquinol* for 3 months: ↑ CoQ10 levels by 63% & ↑ ATP levels by >300% leading to significant improvements in fatigue, pain, depression and anxiety.⁶

Congestive Heart Failure: 2 mg/kg of body weight/day *ubiquinone* (equivalent to 150 mg/day for 165 lbs) for one year in a double-blind trial significantly reduced hospitalization and

the incidence of serious complications in patients with chronic congestive heart failure.⁷

Cardiovascular Disease: 200 mg *ubiquinone* with 200 mcg selenium/day led to 53.2% less cardiovascular mortality and significantly better heart function compared to controls at the end of a 5.2 year period.⁸

Hypertension: 225 mg/day average dose of *ubiquinone* led to a significant improvement in systolic and diastolic blood pressure in which 51% of 109 patients came completely off between one and three antihypertensive drugs at an average of 4.4 months after beginning supplementation.⁹

Athletic Performance: 300 mg/day *ubiquinol* for 6 weeks in a double-blind, placebo controlled trial led to a 10.2% increase in maximum power output in Olympic athletes.¹⁰

Sources and Research Abstracts

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