

What is Coenzyme Q10?

Coenzyme Q10 (CoQ10), also known as ubiquinone or ubiquinol, is a vitamin-like, naturally-occurring nutrient that plays a vital role in cellular energy production.^[1] It is present in most tissues with the highest concentrations in the heart, liver, kidneys and pancreas.^[2]

CoQ10 is essential for maintaining life and producing energy by our cellular “power house” –the mitochondria.^[1] Without CoQ10, our body will not be able to function properly. CoQ10 also acts a strong antioxidant and free radical scavenger, and helps maintain peripheral circulation and cell membrane integrity.^[1,3-6]

Why do we need Coenzyme Q10 ?

Our body can synthesize CoQ10 but age and diseases lowered our production ability.^[7] Habits like smoking further deplete our CoQ10 store.^[8] Low CoQ10 levels have been associated with diseases of the heart, muscle, brain, nervous system, eyes, etc.^[9] Therefore, we may need to replenish the body store by taking CoQ10 in order to maintain normal cellular function and good health.

Health Facts about Coenzyme Q10

Super Antioxidant

Mitochondria are the major location of reactive oxygen species (ROS) production in cells. Accumulation of free radicals in tissues can result in cell death and aging. Excessive cell death is a characteristic of many neurological disorders including stroke, ischemia (reduced blood supply to certain part of the body), and Alzheimer's disease.^[1] CoQ10 could reduce the amount of mitochondrial ROS and scavenge free radicals while serving as an antioxidant.^[1,4-6] Its anti-oxidizing power is even stronger than vitamin E!^[3]

Cardiovascular health

Cardiac muscle is working 24-7. The cardiac muscle cells are constantly under oxidative stress imposed by the mitochondria during the energy production process. On the other hand, studies have found that superoxide dismutase

(SOD) activity is substantially reduced in patients with coronary artery disease.^[10] CoQ10 has been shown to enhance the activity of SOD, promote vasodilation, improve cardiac muscle bioenergetics and attenuate blood vessel dysfunction.^[3,10-11] CoQ10 helps to maintain a healthy cardiovascular system.^[4-6]

Rejuvenate skin

A study revealed that CoQ10 inhibits ultraviolet B-induced wrinkle formation.^[12] The results indicated that CoQ10 inhibits the production of collagenase, an enzyme that degrades collagen fibers. Its inhibition by CoQ10 likely contributed to protect dermal fiber composition from degradation, leading to rejuvenation of wrinkled skin. Anti-oxidative property of CoQ10 also contributes substantially to protect skin cells from oxidative damages, helping to delay aging.^[4-6,12]

Brain and nervous system functions

CoQ10 exerts neuroprotective effects in both cellular and animal models of neurodegenerative disorders. By stabilizing mitochondrial membrane and delaying degeneration of brain nerve cells, CoQ10 may ease the symptoms of Parkinson's disease.^[5,13]

CoQ10 levels in the retina can decline by 40% with age. This decline may have two consequences: a decrease in antioxidant ability and a decrease in the rate of energy production in the retina and, as such, this decline may be linked to the progression of macular degeneration.^[14-15]

Functions of Coenzyme Q10

- Help maintain health of cardiovascular system^[3-6,10-11]
- Help to maintain general health and boost up immune system^[4-5]
- Strong antioxidant to protect cells from free radicals^[1,3-6,12]
- Increase energy and body strength by revitalization of body cells^[5,11]
- Slow down body and brain degeneration rate^[1,3-5,13-15]
- Support neurological health and reduce migraine frequency^[5]
- Decelerate aging process^[4-6,12]
- Improve sperm density and motility^[5,16]

Recommended daily dose:

Adults take 1-4 softgel capsules daily after meal or as directed by physicians.

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