

*"Coenzyme Q10 - a micronutrient that both boosts energy production, and cleans up the wastes from energy production."*

## What is Coenzyme Q10 ?

Coenzyme Q10 is often abbreviated to CoQ10. Coenzyme Q10 is known to chemists as ubiquinol. Coenzyme Q10 is an essential nutrient found in every cell of our body. Two primary roles of Coenzyme Q10 are: 1. An essential catalyst of energy production metabolism in mitochondria, a powerhouse organelle in the cell. 2. As a conversant anti-oxidant that can readily absorb (and release) electrons from chemically active and thus potentially harmful free radical compounds (free radicals) generated from the metabolic reactions, thereby scavenging the cellular environment.

Coenzyme Q10 is a vitamin-like nutrient in that it is essential, required in small quantity, and catalyzes crucial metabolism. However, unlike vitamins that cannot be synthesized in our body and need to be ingested, Coenzyme Q10 is produced in our body, although often not in sufficient quantity. Dr. Karl Folkers, who was one of the pioneering CoQ10 scientist and also was involved in naming Coenzyme Q10, regretted not calling it a vitamin.

Coenzyme Q10 is made in our body, and found everywhere including meat, the biosynthetic pathways to produce it in our body is highly complicated and often not synthesized in sufficient quantity.

## History

Coenzyme Q10 was first isolated from the mitochondria of beef heart as yellow substance by Dr. Frederick Crane in 1957 then working at University of Wisconsin, well known for its vitamin researches in the mid 20th century. In 1958, Dr. Folkers and collaborators at Merck synthesized Coenzyme Q10 in the laboratory. By mid 1980, Coenzyme Q10 became widely available as commercial products and became increasingly popular along with reports from numerous scientific research and clinical trials since then.

In 1964, Coenzyme Q10 was demonstrated to be useful in treating congestive heart failure by a Japanese scientist. The success of the use of Coenzyme Q10 for heart failure was attributed to its energizing effect on heart muscles. The anti-oxidant effect of Coenzyme Q10 was first demonstrated in 1970, and became a favorable nutrient for treating a variety of cardiovascular problems safely and effectively.

Despite the relatively long history and excellent reputation, many clinicians and health care professionals in the US, let alone the general public, are well informed about this wonderful nutrition. Lack of interest of large pharmaceutical companies that seek patentable and more profitable drug items as well as lack of interest of many of the health practioners to read research reports contributed to low popularity. Situation in Europe and Japan is quite different, and Coenzyme Q10 is better known and more popular there.

Numerous scientific researches and human clinical trials have been performed on Coenzyme Q10, and in the year 1978, a British scientist Dr. Peter Mitchell was awarded Nobel Prize in chemistry for his study in the role of Coenzyme Q10 in cellular energy production mechanism.

## Sources and Usage

Most of dietary intake of Coenzyme Q10 comes from meat and fish, and daily intake ranges from 2 to 20 milligrams. Organ meats such as lung, heart, and liver, are the richest sources, and unfortunately, few people normally consume them. Because plants contain very little Coenzyme Q10, vegetarians are not likely to intake sufficient amount of Coenzyme Q10. Old people are less efficient in the self-production of Coenzyme Q10. Coenzyme Q10 supplementation would be more helpful for those who are older, or those who have nutritional deficiencies and subnormal liver function and have reduced coenzyme Q10 production. Every bodily system in the older person would benefit from Coenzyme Q10 intake. Coenzyme Q10 will be especially helpful for enhancing immune system function, cardiovascular performance, liver and kidney functions. and for those who suffer heart failure or congestive heart

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Source : WWW

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<http://www.oxyfreshap.com/distweb/index.asp?id=4501>

<http://www.streetram.com/coq10.htm>

failure. and liver and kidney performance. Regardless of age or physical condition, almost everyone would benefit from taking a daily supplementation of Coenzyme Q10 at 30 to 60 mg. Our health and quality of life is directly related to the capacity of energy production in each of cells in our body. It has been estimated that with a 25% deficiency in coenzyme Q10, serious metabolic health problems arise, and at a 75% deficiency, death ensues.

## **How do Q10 and vitamin E support us in protecting the cells against oxidative stress and in increasing performance?**

- Cell Protection Q10 and vitamin E neutralize free radicals thereby protecting the cells against oxidative stress.
- Cell Energy Q10 improves cellular energy and thereby cellular performance
- Heart Energy Q10 improves the energy supply to the heart muscle thereby increasing the cardiac performance
- Anti-Aging Q10 and vitamin E improve the cell membranes' ability to perform for an optimal exchange of nutrients, oxygen and waste thereby keeping the cells young for longer (anti-aging)

## **How can Q10 support us?**

- The body's own synthesis is reduced (starting around the age of 35 at the latest)
- In stressful situations (illness, sport, strain, medication)
- With cardio-vascular diseases (palpitations, arteriosclerosis, hypertonicity)
- To protect the skin against UV damage/aging
- With cancer
- With autoimmune disorders

**The above is only for minimum dosage of 30mg to 60mg.**

**For medical conditions: Dosage will vary from condition to condition & the dosage is higher.**