



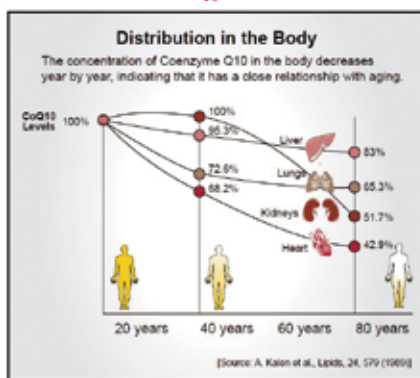
## Coenzyme Q<sub>10</sub> - Myth or Fact!?

Coenzyme Q<sub>10</sub> (CoQ<sub>10</sub>) is a vitamin-like substance found in all human cells and primarily participates in aerobic cellular respiration, the set of reactions used to generate most of the energy needed by the body.

This critical role explains why organs that require a lot of energy - such as the heart - have the highest CoQ<sub>10</sub> concentrations in the body. In addition, CoQ<sub>10</sub> also acts as an antioxidant which protects cells from damage caused by free radicals and oxidative stress.

Since its energizing, anti-aging effects can influence all cells in the body, CoQ<sub>10</sub> aids a variety of concerns, including lesser known areas like gum health and exercise performance. The evidence of CoQ<sub>10</sub> benefits in cardiovascular health applications cannot be debated.

### Age-related CoQ<sub>10</sub> Decline - Truth



The abundant output of CoQ<sub>10</sub> produced naturally in the body in abundance when young declines most rapidly after age 40. CoQ<sub>10</sub> levels decline in organs at different, but steady, rates.

### Statin Drugs deplete CoQ<sub>10</sub> - Truth

Age isn't the only factor draining our CoQ<sub>10</sub>. Statin drugs, which lower cholesterol, also deplete CoQ<sub>10</sub>. This is an ironic twist because CoQ<sub>10</sub> is excellent for cardiovascular health, but may be reduced to potentially risky levels by cardiovascular drugs.

The good news: supplemental CoQ<sub>10</sub> can help to maintain blood levels against the depleting due to aging and statin drugs. But which form of CoQ<sub>10</sub> is preferable?

### Ubiquinol is better than Ubiquinone? - Myth

Ever since the discovery of CoQ<sub>10</sub> in 1957, scientists have been conducting research with this intriguing nutrient that appears to

play a crucial role in human health. There are two forms of CoQ<sub>10</sub>, one is ubiquinone (oxidized form) which is essential for CoQ<sub>10</sub>'s role in cellular energy metabolism, and the other one is ubiquinol (reduced form) which is essential for the antioxidant function of CoQ<sub>10</sub>. Depending on whether CoQ<sub>10</sub> is in the blood and lymph or inside the mitochondria of the cells, it shifts to the form needed for the situation.

Recently, some clever marketing campaigns claimed that ubiquinol is superior to ubiquinone because its reduced form would be more easily absorbed. However, ubiquinol is susceptible to oxidation and less stable, so it is difficult to maintain ubiquinol in its non-oxidized form inside the capsule. Ubiquinol has a milky white appearance while ubiquinone is yellowish. The best way to test if an ubiquinol supplement is really what it claims is by its color. If it is yellowish, there is a risk that it has turned into ubiquinone. In that case, you have not received what you paid for. Moreover, the absorption of ubiquinol and ubiquinone are the same. Actually, CoQ<sub>10</sub>, regardless of its form in the supplement, is absorbed through the intestinal membrane as ubiquinone and the absorption rate is dependent on the presence of the proper carrier in the gut.

The most important aspect of CoQ<sub>10</sub> supplementation is absorption and subsequent bioavailability. Absorption is a measure of the amount of CoQ<sub>10</sub> that leaves the gastrointestinal tract and gets to the blood. Bioavailability is measured as the amount of CoQ<sub>10</sub> that gets from the blood to the cells. CoQ<sub>10</sub> formulation and delivery systems are important because absorbable Q<sub>10</sub> is difficult and expensive to manufacture. Only good CoQ<sub>10</sub> absorption can provide beneficial effects including good heart health, better exercise performance, and protection from neuro-degenerative disorders, statin-caused damage, and protection during and after surgery, plus an improved quality of life.

