

# Backgrounder

## Ubiquinol



Ubiquinol is the reduced, active antioxidant form of CoQ10 (ubiquinone). Produced naturally within the body, it is the most powerful lipid-soluble antioxidant available, providing an active defense against oxidative damage to lipids, proteins and DNA. Because it is a critical component of ATP (energy) production for every cell in the body, ubiquinol is vital to generating and sustaining cellular energy.

Young, healthy individuals produce adequate levels of ubiquinone (CoQ10) naturally. The body must then convert ubiquinone into ubiquinol. More than 90 percent of the CoQ10 in the plasma of a healthy individual is in the reduced ubiquinol form.

The body's ability to convert ubiquinone to ubiquinol is impaired by age (typically beginning at around 40), by acute or chronic disease and by excessive oxidative stress. Without proper levels of ubiquinone and ubiquinol in plasma or tissues, the body produces less cellular energy and lacks a strong defense against oxidative stress.

Individuals with cardiovascular, neurological, liver-related and diabetes-related conditions have been shown to have reduced levels of ubiquinol in their plasma. Preparations for clinical studies on the effects of ubiquinol supplementation in these categories are currently underway. Early reports from a clinical study of ubiquinol on end-stage cardiovascular disease have shown remarkable results and are expected to be published in the fall of 2007.

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Everyone over the age of 20 should consider supplementing with CoQ10 (ubiquinone). However, for those who are 40 and older, as well as individuals who are unable to efficiently reduce ubiquinone, supplementing with ubiquinol is especially important to provide effective lipid-soluble antioxidant defense, and to maintain optimum levels of the nutrient for increased stamina and energy.

While ubiquinone has been available in supplement form for 30 years, ubiquinol has only been commercially available since 2006. Because ubiquinol is so easily oxidized, it took years of research to develop a stabilization process by which the nutrient remains in its reduced form outside of the body.

KanekaQH™ is the only supplemental ubiquinol on the market today and is manufactured exclusively by Kaneka, the world's leading provider of CoQ10 for the past 30 years.

*Current as of September 2007*