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Coenzyme Q10

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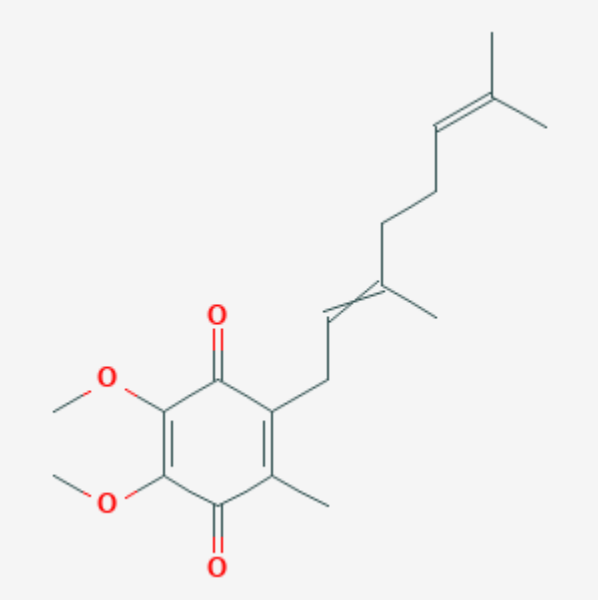
CASRN: 1339-63-5



Drug Levels and Effects

Summary of Use during Lactation

Coenzyme Q10 (ubiquinone) is a normal part of the diet, and is also endogenously synthesized. It is a normal component of human milk, but milk levels are slightly low in the breastmilk of mothers with preterm infants. Coenzyme Q10 has no specific lactation-related uses and no data exist on the safety and efficacy of supplementation in nursing mothers or infants. Coenzyme Q10 supplements are usually well tolerated with only infrequent, minor side effects.

Dietary supplements do not require extensive pre-marketing approval from the U.S. Food and Drug Administration. Manufacturers are responsible to ensure the safety, but do not need to *prove* the safety and effectiveness of dietary supplements before they are marketed. Dietary supplements may contain multiple ingredients, and differences are often found between labeled and actual ingredients or their amounts. A manufacturer may contract with an independent organization to verify the quality of a product or its

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ingredients, but that does *not* certify the safety or effectiveness of a product. Because of the above issues, clinical testing results on one product may not be applicable to other products. More detailed information about dietary supplements is available elsewhere on the LactMed Web site.

Drug Levels

Milk levels of coenzyme Q10 have not been measured after exogenous administration in humans. Coenzyme Q10 is a normal component of human milk; however, values appear to vary depending on the country in which they are measured, possibly because of dietary, genetic or other population differences as well as assay differences.[1]

Maternal Levels. A study in 15 Italian mothers found a mean milk coenzyme Q10 concentrations of 1.6 mg/L at 4 days postpartum, compared to a maternal plasma concentration of 1.29 mg/L at the time of delivery.[2]

Coenzyme Q10 milk levels were measured in 23 German women who were between 24 to 48 hours postpartum, and again at 7 and 14 days postpartum. Milk levels were 1.1, 1.0 and 0.9 mg/L, respectively, at those times. The study found no correlation between maternal plasma levels and milk coenzyme Q10 levels in mature milk.[3]

Coenzyme Q10 milk levels were measured in 30 Spanish women on days 3, 8 and 30 postpartum. Half had delivered preterm infants and the other half had delivered fullterm infants. The estimated intake of coenzyme Q10 from food diaries were 3.2 mg daily in the preterm group and 2.7 mg daily in the fullterm group. In the preterm group, milk levels were 0.43, 0.39 and 0.36 mg/L, respectively, at those times. In the fullterm group, milk levels were 0.69, 0.65 and 0.47 mg/L, respectively, at those times.[4]

Forty-three breastmilk samples were obtained from 32 Japanese women during the first 8 days postpartum. The mean coenzyme Q10 concentration was 0.35 mcg/L.[5]

Thirty-nine lactating women in the United States donated 194 samples of breastmilk for analysis. The average milk concentration of coenzyme Q10 was 0.27 mcg/L.[1]

Infant Levels. Plasma concentrations of coenzyme Q10 have not been measured in the plasma of breastfed infants after maternal supplementation. However, a study in 15 Italian mothers and their breastfed infants found infant coenzyme Q10 plasma concentrations of 49 mg/L at 4 days and 0.41 mg/L at 4 weeks of age. The mean maternal coenzyme Q10 plasma concentration at delivery was 1.29 mg/L.[2]

Effects in Breastfed Infants

Relevant published information was not found as of the revision date.

Effects on Lactation and Breastmilk

Relevant published information was not found as of the revision date.

References

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Substance Identification

Substance Name

Coenzyme Q10

Scientific Name

Ubiquinone

CAS Registry Number

1339-63-5

Drug Class

Breast Feeding

Lactation

Complementary Therapies

Coenzymes