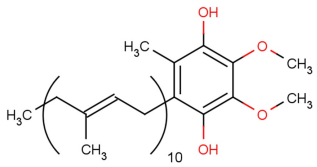
Data Sheet (Cat.No.T13243)

TargetMol
A DRUG SCREENING EXPERT

Ubiquinol

Chemical Properties



CAS No.:	992-78-9
Formula:	C59H92O4
Molecular Weight:	865.38
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	Ubiquinol is a reduced form of coenzyme Q10 (CoQ10) and is a potent antioxidant that has the capacity to protect Vitamin E.
Targets(IC_{50})	Others: None
In vitro	The lipophilic environment encircles the lipophilic low-molecular-weight antioxidants (α-tocopherol, β-carotene, and Ubiquinol) and prevents them from reacting as skin protectors [1].
In vivo	The levels of these homologs are highest in the heart with lesser amounts occurring in the kidney, liver, and other organs. In liver and blood plasma, the UQred homolog amounted to 70-80% of the total UQ (UQox + Ubiquinol = t-UQ). Ubiquinol is less than 30% of t-UQ in other tissues and blood cells. t-UQ is much higher in leukocytes and platelets in blood than in erythrocytes. In erythrocytes, t-UQ is exclusively located in the cell membranes. Ubiquinol is also found in all subcellular components isolated from the liver and kidney, and its ratio is approximately the same as the ratio of ubiquinol/t-UQ in the entire organ. The levels of Ubiquinol per mg protein in subcellular fractions from the liver are highest in mitochondria, with lesser amounts present in plasma membranes, lysosomes, Golgi complex, nuclei, microsomes, and cytosol. In the mitochondria, the outer membranes are richer in t-UQ than the inner membranes [4].

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.156 mL	5.778 mL	11.556 mL
5 mM	0.231 mL	1.156 mL	2.311 mL
10 mM	0.116 mL	0.578 mL	1.156 mL
50 mM	0.023 mL	0.116 mL	0.231 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Grammenandi K, et al. Low-Molecular-Weight Hydrophilic and Lipophilic Antioxidants in Nonmelanoma Skin Carcinomas and Adjacent Normal-Looking Skin. Skin Pharmacol Physiol. 2016;29(6):324-331.
2. Yamamoto Y, et al. Plasma ratio of ubiquinol and ubiquinone as a marker of oxidative stress. Mol Aspects Med. 1997;18 Suppl:S79-84.
3. Zhang Y, et al. Ubiquinol is superior to ubiquinone to enhance Coenzyme Q10 status in older men. Food Funct. 2018 Nov 14;9(11):5653-5659.
4. Takahashi T, et al. Distribution of ubiquinone and ubiquinol homologues in rat tissues and subcellular fractions. Lipids. 1993 Sep;28(9):803-9.

Tel:781-999-4286 E-mail:info@targetmol.com Address:36 Washington Street,Wellesley Hills,MA 02481