

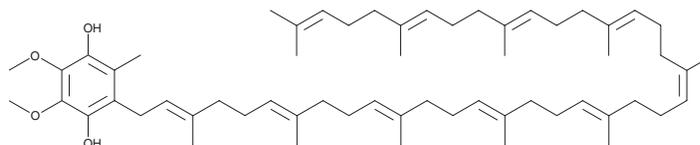
# PRODUCT INFORMATION



## Ubiquinol

Item No. 19677

**CAS Registry No.:** 992-78-9  
**Formal Name:** 2-[3,7,11,15,19,23,27,31,35,39-decamethyl-2E,6E,10E,14E,18E,22E,26E,30E,34E,38-tetracontadecaen-1-yl]-5,6-dimethoxy-3-methyl-1,4-benzenediol  
**Synonyms:** Dihydro Coenzyme Q<sub>10</sub>, Reduced Coenzyme Q<sub>10</sub>  
**MF:** C<sub>59</sub>H<sub>92</sub>O<sub>4</sub>  
**FW:** 865.4  
**Purity:** ≥90%  
**Supplied as:** A crystalline solid  
**Storage:** -80°C  
**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Ubiquinol is supplied as a crystalline solid. A stock solution may be made by dissolving the ubiquinol in the solvent of choice, which should be purged with an inert gas. Ubiquinol is soluble in chloroform.

### Description

Ubiquinol is a reduced form of coenzyme Q<sub>10</sub> (CoQ<sub>10</sub>; Item No. 11506), which exists in three redox states: fully oxidized (CoQ<sub>10</sub>/ubiquinone), partially reduced (semiquinone/ubisemiquinone), and fully reduced (ubiquinol).<sup>1</sup> CoQ<sub>10</sub> acts as an electron shuttle in the electron transport chain via its reduction to ubiquinol between mitochondrial complexes I and II, also known as NADH dehydrogenase and succinate dehydrogenase, respectively, and mitochondrial complex III, also known as cytochrome *bc*<sub>1</sub> complex.<sup>2,3</sup> CoQ<sub>10</sub> is also reduced to ubiquinol by ferroptosis suppressor protein 1 (FSP1) with NADPH as a cofactor, and ubiquinol traps lipid peroxyl radicals and inhibits lipid peroxidation helping to prevent ferroptosis.<sup>4</sup>

### References

1. Ernster, L. and Dallner, G. Biochemical, physiological and medical aspects of ubiquinone function. *Biochim. Biophys. Acta* **1271(1)**, 195-204 (1995).
2. Crane, F.L. Biochemical functions of coenzyme Q<sub>10</sub>. *J. Am. Coll. Nutr.* **20(6)**, 591-598 (2001).
3. Acosta, M.J., Fonseca, L.V., Desbats, M.A., et al. Coenzyme Q biosynthesis in health and disease. *Biochim. Biophys. Acta* **1857(8)**, 1079-1085 (2016).
4. Doll, S., Freitas, F.P., Shah, R., et al. FSP1 is a glutathione-independent ferroptosis suppressor. *Nature* **575(7784)**, 693-698 (2019).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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