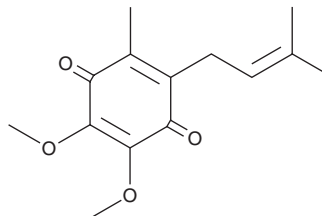


# PRODUCT INFORMATION



## Coenzyme Q<sub>1</sub> Item No. 18741

**CAS Registry No.:** 727-81-1  
**Formal Name:** 2,3-dimethoxy-5-methyl-6-(3-methyl-2-buten-1-yl)-2,5-cyclohexadiene-1,4-dione  
**Synonyms:** CoQ<sub>1</sub>, NSC 268269, Ubiquinone-1, Ubiquinone-5  
**MF:** C<sub>14</sub>H<sub>18</sub>O<sub>4</sub>  
**FW:** 250.3  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 274 nm  
**Supplied as:** A solution in ethanol  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

Coenzyme Q<sub>1</sub> (CoQ<sub>1</sub>) is supplied as a solution in ethanol. A stock solution may be made by dissolving the CoQ<sub>1</sub> in the solvent of choice, which should be purged with an inert gas. CoQ<sub>1</sub> is soluble in organic solvents such as ethanol and dimethyl formamide. The solubility of CoQ<sub>1</sub> in these solvents is approximately 10 mg/ml.

### Description

CoQ<sub>1</sub> is an electron acceptor and a derivative of the mitochondrial electron transport chain cofactor CoQ<sub>10</sub> (Item No. 11506).<sup>1</sup> It induces opening of the mitochondrial permeability transition pore and apoptosis in clone 9 cells when used at a concentration of 50 μM.<sup>2</sup> CoQ<sub>1</sub> has been used in the detection of mitochondrial complex I, also known as NADH dehydrogenase, activity in perfused tissue and subcellular fractions.<sup>1,3</sup>

### References

1. Fato, R., Estornell, E., DiBernardo, S., *et al.* Steady-state kinetics of the reduction of coenzyme Q analogs by complex I (NADH:ubiquinone oxidoreductase) in bovine heart mitochondria and submitochondrial particles. *Biochem.* **35(8)**, 2705-2716 (1996).
2. Devun, F., Walter, L., Belliere, J., *et al.* Ubiquinone analogs: a mitochondrial permeability transition pore-dependent pathway to selective cell death. *PLoS One* **5(7)**, (2010).
3. Bongard, R.D., Myers, C.R., Lindemer, B.J., *et al.* Coenzyme Q(1) as a probe for mitochondrial complex I activity in the intact perfused hyperoxia-exposed wild-type and Nqo1-null mouse lung. *Am. J. Physiol. Lung Cell Mol. Physiol.* **302(9)**, L949-L958, (2012).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/07/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM