

Coenzyme Q10

Chemical Properties

CAS No. : 303-98-0

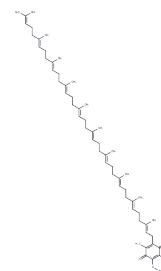
Formula: C₅₉H₉₀O₄

Molecular Weight: 863.34

Storage: Store at low temperature, The compound is unstable in solution. Please use soon

Powder: -20°C for 3 years

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Coenzyme Q10 (CoQ10) is a naturally occurring lipid-soluble quinone compound derived from <i>Fusarium oxysporum</i> . Coenzyme Q10 functions as an electron carrier in the mitochondrial respiratory chain, sustaining mitochondrial energy metabolism. Coenzyme Q10 is applicable in research on mitochondrial dysfunction, oxidative stress damage, cardiovascular diseases, and neurodegenerative disorders.
Targets(IC50)	Ferroptosis, Reactive Oxygen Species, Endogenous Metabolite, ROS
In vitro	<p>Methods: Isolated rat liver mitochondria were treated with Coenzyme Q10 (16, 32, 48, 64, 80 µg/mL), and inorganic phosphate release was measured to reflect ATPase activity.</p> <p>Results: PCK and Coenzyme Q10 at all concentrations increased mitochondrial ATPase activity. [1]</p> <p>Methods: Primary mouse peritoneal macrophages were pretreated with Coenzyme Q10 (20 µM) for 2 hours, then stimulated with LPS (1 µg/mL) for 6, 12, or 18 hours. Reactive oxygen species (ROS) were detected using the DCFH-DA fluorescent probe.</p> <p>Results: Coenzyme Q10 treatment significantly inhibited LPS-induced ROS production in macrophages. [2]</p>
In vivo	<p>Methods: Coenzyme Q10 (600 mg/kg/day) was administered via oral gavage starting 3 days prior to myocardial infarction in mice, once daily, continuing until 28 days post-surgery.</p> <p>Results: Coenzyme Q10 significantly reduced the area of myocardial fibrosis following myocardial infarction and alleviated myocardial cell hypertrophy in the infarct margin zone. [2]</p>

Solubility Information

Solubility	DMF: 1 mg/mL (1.16 mM), Sonication and heating are recommended. DMSO: < 1 mg/mL (insoluble or slightly soluble), The compound is unstable in solution, please use soon. (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	---

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1583 mL	5.7915 mL	11.5829 mL
5 mM	0.2317 mL	1.1583 mL	2.3166 mL
10 mM	0.1158 mL	0.5791 mL	1.1583 mL
50 mM	0.0232 mL	0.1158 mL	0.2317 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Adeoye AO, et al. Antioxidative Potential and Activity of Potassium Polyacrylate and Coenzyme Q10 on Rat Hepatic Mitochondrial Permeability Transition Pores. Arch Razi Inst. 2024 Aug 1;79(4):805-814.

Pan W, et al. Coenzyme Q10 mitigates macrophage mediated inflammation in heart following myocardial infarction via the NLRP3/IL1 β pathway. BMC Cardiovasc Disord. 2024 Jan 28;24(1):76.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481