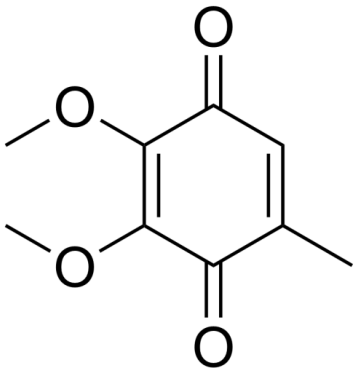
Data Sheet

Product Name:	Coenzyme Q0
Cat. No.:	CS-W017128
CAS No.:	605-94-7
Molecular Formula:	$C_9H_{10}O_4$
Molecular Weight:	182.18
Target:	Akt; Apoptosis; Autophagy; Bcl-2 Family; Caspase; COX; EGFR; Interleukin Related; MMP; mTOR; NF-κB; NO Synthase; PARP; Reactive Oxygen Species; TNF Receptor
Pathway:	Apoptosis; Autophagy; Cell Cycle/DNA Damage; Epigenetics; Immunology/Inflammation; JAK/STAT Signaling; Metabolic Enzyme/Protease; NF-κB; PI3K/Akt/mTOR; Protein Tyrosine Kinase/RTK
Solubility:	DMSO : ≥ 100 mg/mL (548.91 mM)



BIOLOGICAL ACTIVITY:

Coenzyme Q0 (CoQ0) is a potent, oral active ubiquinone compound can be derived from ***Antrodia cinnamomea***. Coenzyme Q0 induces **apoptosis** and **autophagy**, suppresses of HER-2/AKT/mTOR signaling to potentiate the apoptosis and autophagy mechanisms. Coenzyme Q0 regulates NFκB/AP-1 activation and enhances Nrf2 stabilization in attenuation of inflammation and redox imbalance. Coenzyme Q0 has anti-angiogenic activity through downregulation of MMP-9/NF-κB and upregulation of HO-1 signaling[1][2][3]. ***In Vitro:***Coenzyme Q0 (0-40 μM; 24 h) and inhibits viability and growth of human ovarian carcinoma cells[1].

Coenzyme Q0 (CoQ0) (0-30 μM; 24 h; SKOV-3 cells) has anti-proliferative activity through induction of G2/M cell-cycle arrest and reduction of cell-cycle regulatory proteins[1].

Coenzyme Q0 (CoQ0) (0-30 μM; 0-30 min; SKOV-3 cells) increases intracellular ROS levels to promote SKOV-3 cell death[1].

Coenzyme Q0 (CoQ0) (0-30 μM; 24 h; SKOV-3 cells) induces autophagy by increase accumulation of LC3-II, GFP-LC3 puncta, AVOs formation and Beclin-1/Bcl-2 dysregulation[1].

Coenzyme Q0 (CoQ0) (0-30 μM; 24 h; SKOV-3 cells) induces apoptosis by mitochondrial (caspase-3, PARP and Bax/Bcl-2 dysregulation) and ER stress (caspase-12 and Hsp70) signals[1].

Coenzyme Q0 (CoQ0) (30 μM; 24 h; SKOV-3 cells) suppresses of HER-2/AKT/mTOR signaling to potentiate the apoptosis and autophagy mechanisms[1].

Coenzyme Q0 (CoQ0) (0-10 μM; 0.5-18 h; RAW264.7 cells) regulates NFκB/AP-1 activation and enhances Nrf2 stabilization[2].

Coenzyme Q0 (CoQ0) (5 μM; 0-12 h; EA.hy 926 cells) has anti-angiogenic activity in EA.hy 926 cells[3]. ***In Vivo:***Coenzyme Q0 (CoQ0) (1.5 and 2.5 mg/kg; i.p.; once every four days, for 52 d) suppresses tumor growth in SKOV-3 xenografted nude mice[1].

Coenzyme Q0(CoQ0) (5 mg/kg; p.o.; for 4 h) has anti-inflammatory activities through Nrf2 activation and NFκB inhibition in liver and spleen of LPS-treated mice[2].

References:

[1]. Yang HL, et, al. Coenzyme Q0 regulates NFκB/AP-1 activation and enhances Nrf2 stabilization in attenuation of LPS-induced inflammation and redox imbalance: Evidence from in vitro and in vivo studies. Biochim Biophys Acta. 2016 Feb;1859(2):246-61.

[2]. Yang HL, et, al. Coenzyme Q0 regulates NFκB/AP-1 activation and enhances Nrf2 stabilization in attenuation of LPS-induced inflammation and redox imbalance: Evidence from in vitro and in vivo studies. Biochim Biophys Acta. 2016 Feb;1859(2):246-61.

[3]. Yang HL, et, al. Anti-angiogenic properties of coenzyme Q0 through downregulation of MMP-9/NF-κB and upregulation of HO-1 signaling in TNF-α-activated human endothelial cells. Biochem Pharmacol. 2015 Nov 1;98(1):144-56.

CAIndexNames:

2,5-Cyclohexadiene-1,4-dione, 2,3-dimethoxy-5-methyl-

SMILES:

O=C1C(OC)=C(OC)C(C(C)=C1)=O

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