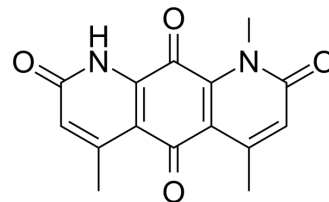


Deoxyxyboquinone

Cat. No.:	HY-108992		
CAS No.:	96748-86-6		
Molecular Formula:	C ₁₅ H ₁₂ N ₂ O ₄		
Molecular Weight:	284.27		
Target:	Apoptosis; Reactive Oxygen Species		
Pathway:	Apoptosis; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 4 mg/mL (14.07 mM; ultrasonic and warming and heat to 60°C)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.5178 mL	17.5889 mL	35.1778 mL
	5 mM	0.7036 mL	3.5178 mL	7.0356 mL
	10 mM	0.3518 mL	1.7589 mL	3.5178 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Deoxyxyboquinone, an excellent NQO1 substrate, is a potent antineoplastic agent. Deoxyxyboquinone induces apoptosis in cancer cell lines. Deoxyxyboquinone kills cancer cells through oxidative stress and reactive oxygen species (ROS) formation [1][2][3].

IC₅₀ & Target

Apoptosis^{[2][3]}; ROS^[4]

In Vitro

Deoxyxyboquinone (DNQ; 72h) potently induces the death of cancer cells (SK-MEL-5, MCF-7, HL-60, HL-60/ADR) in culture, with IC₅₀ values between 16 and 210 nM^[2].
 Deoxyxyboquinone is still able to induce cancer cell death under hypoxic conditions (HeLa cell; IC₅₀: 5.1 μM)^[2].
 Deoxyxyboquinone (group B1; 0.5 μM; 3, 6, 24 hours) potently induces apoptosis in cancer cell lines (MCF-7, HL-60) through cytochrome c release^[3].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Deoxyxyboquinone (2.5, 5, and 10 mg/kg; every other day for 5 injections; i.v. for day 2-18) shows antitumor efficacy confirmed by overall survival (at 5 mg/kg), at a 6-fold lower dose than β-lapachone (30 mg/kg)^[4].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Elizabeth I Parkinson, et al. Deoxyxyboquinones as NQO1-Activated Cancer Therapeutics. *Acc Chem Res.* 2015 Oct 20;48(10):2715-23.
- [2]. Joseph S Bair, et al. Chemistry and biology of deoxyxyboquinone, a potent inducer of cancer cell death. *J Am Chem Soc.* 2010 Apr 21;132(15):5469-78.
- [3]. Tudor G, et al. Cytotoxicity and apoptosis of benzoquinones: redox cycling, cytochrome c release, and BAD protein expression. *Biochem Pharmacol.* 2003;65(7):1061-1075.
- [4]. Huang X, et al. An NQO1 substrate with potent antitumor activity that selectively kills by PARP1-induced programmed necrosis. *Cancer Res.* 2012 Jun 15;72(12):3038-47.
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Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA