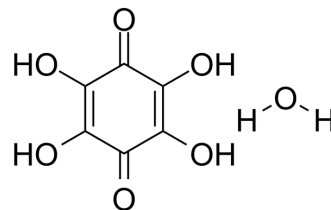


## Tetrahydroxyquinone monohydrate

<b>Cat. No.:</b>	HY-B1106A		
<b>CAS No.:</b>	1215458-51-7		
<b>Molecular Formula:</b>	C <sub>6</sub> H <sub>6</sub> O <sub>7</sub>		
<b>Molecular Weight:</b>	190.11		
<b>Target:</b>	Reactive Oxygen Species; Apoptosis		
<b>Pathway:</b>	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB; Apoptosis		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (526.01 mM; Need ultrasonic)			
		Solvent Concentration	Mass	
			1 mg	5 mg
			10 mg	
<b>Preparing Stock Solutions</b>	<b>1 mM</b>	5.2601 mL	26.3006 mL	52.6011 mL
	<b>5 mM</b>	1.0520 mL	5.2601 mL	10.5202 mL
	<b>10 mM</b>	0.5260 mL	2.6301 mL	5.2601 mL
Please refer to the solubility information to select the appropriate solvent.				
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (13.15 mM); Clear solution  2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (13.15 mM); Clear solution			

### BIOLOGICAL ACTIVITY

<b>Description</b>	Tetrahydroxyquinone monohydrate (Tetrahydroxy-1,4-benzoquinone monohydrate), a primitive anticataract agent, is a redox active benzoquinone. Tetrahydroxyquinone monohydrate can take part in a redox cycle with semiquinone radicals, leading to the formation of reactive oxygen species (ROS) <sup>[1]</sup> .
<b>In Vitro</b>	<p>Tetrahydroxyquinone (100-500 μM; 24 hours; HL60 cells) treatment shows cytotoxic for HL60 leukaemia cells by total protein content (IC<sub>50</sub> of 20 μM), phosphatase activity (IC<sub>50</sub> of 40 μM), or by MTT assay (IC<sub>50</sub> of 45 μM). Tetrahydroxyquinone is an efficient inducer of ROS production in HL60 leukaemia cells<sup>[1]</sup>.</p> <p>Tetrahydroxyquinone efficiently activates caspase 3 in concentration in excess of 25 μM, stimulates DNA fragmentation at the same concentration and provoke phosphatidylserine exposure<sup>[1]</sup>.</p> <p>Tetrahydroxyquinone induces the release of cytochrome c from the mitochondria at concentration as low as 25 μM.</p>

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Tetrahydroquinone treatment also causes increase of phosphorylation of Ser473 in protein kinase B (the Bad kinase for Ser112)<sup>[1]</sup>.

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

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## REFERENCES

[1]. Alexandre D Martins Cavagis, et al. Tetrahydroquinone induces apoptosis of leukemia cells through diminished survival signaling. *Exp Hematol.* 2006 Feb;34(2):188-96.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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