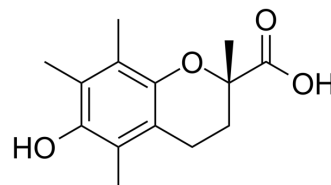


(S)-Trolox

Cat. No.:	HY-101445B
CAS No.:	53174-06-4
Molecular Formula:	C ₁₄ H ₁₈ O ₄
Molecular Weight:	250.29
Target:	Others
Pathway:	Others
Storage:	4°C, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (399.54 mM; Need ultrasonic)					
	H ₂ O : < 0.1 mg/mL (ultrasonic) (insoluble)					
	Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
		Concentration				
		1 mM		3.9954 mL	19.9768 mL	39.9537 mL
5 mM			0.7991 mL	3.9954 mL	7.9907 mL	
	10 mM		0.3995 mL	1.9977 mL	3.9954 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (9.99 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (9.99 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	(S)-Trolox is an analogue of vitamin E, in which the phytyl chain is replaced with a carboxyl group. (S)-Trolox is frequently used as a model compound for studies of structural features, as well as a standard for evaluation of antioxidant activity. (S)-Trolox has potent and specific neuroprotective and antioxidant effects ^{[1][2]} .
In Vitro	The neuroprotective efficacy of antioxidant molecules against iodoacetate (IAA) neurotoxicity in rat cerebellar granule cell (CGC) cultures is investigated. In the absence of MK-801, (S)-Trolox displays marginal neuroprotective effects. In the presence of MK-801 (10 μM), the neuroprotective efficacy of (S)-Trolox is greatly enhanced, giving rise to a recovery in MTT-reductase activity equivalent to 80–100% of control cultures. (S)-Trolox displays EC ₅₀ value of 78 μM. The fluorescence increase in IAA-stimulated DCFH-DA-loaded cultures is inhibited in a dose-dependent manner by the antioxidants (S)-Trolox with an IC ₅₀ value of 97 μM. The antioxidant (S)-Trolox demonstrate apotent and specific neuroprotective action in an in

in vitro model of neurodegeneration induced by inhibition of the glycolytic enzyme GAPDH^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Malcolm CS, et al. Characterization of iodoacetate-mediated neurotoxicity in vitro using primary cultures of rat cerebellar granule cells. *Free Radic Biol Med.* 2000 Jan 1;28(1):102-7.
- [2]. Górecki M, et al. Chromane helicity rule--scope and challenges based on an ECD study of various trolox derivatives. *Org Biomol Chem.* 2014 Apr 14;12(14):2235-54.
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Caution: Product has not been fully validated for medical applications. For research use only.

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