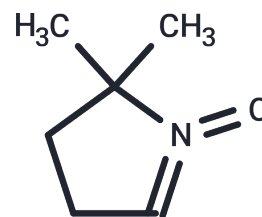


DMPO

Chemical Properties

CAS No. :	3317-61-1
Formula:	C ₆ H ₁₁ NO
Molecular Weight:	113.16
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	DMPO (5,5-Dimethyl-1-pyrroline N-oxide) is a kind of water-soluble nitric oxide spin trap, which allows the measurement of oxygen-centered free radicals in biological systems at room temperature using electron spin resonance. It has a high reaction rate constant for superoxide and hydroxyl radicals and distinguishes simultaneously among a variety of important biologically generated free radicals.
Targets(IC50)	Others
In vitro	In vitro, It was demonstrated in red blood cells and in hamster V79 cells that the DMPO spin adducts of ·O ₂ and ·OH are metabolized very rapidly so that even if formed, they may not be detected in many experiments with cells [1].
In vivo	When DMPO perfused the heart at 100 µm/L, it attenuated the development of reperfusion arrhythmias during the first 10 min of reperfusion and improved the functional recovery of the heart during reperfusion. Without treatment, 55% of hearts showed irreversible ventricular fibrillation, and this was completely prevented by DMPO, due to its function of trapping ·O ₂ and ·OH radicals [2].

Solubility Information

Solubility	DMSO: 55 mg/mL (486.04 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	8.837 mL	44.1852 mL	88.3704 mL
5 mM	1.7674 mL	8.837 mL	17.6741 mL
10 mM	0.8837 mL	4.4185 mL	8.837 mL
50 mM	0.1767 mL	0.8837 mL	1.7674 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.

Reference

Samuni A, Samuni A, Swartz HM. The cellular-induced decay of DMPO spin adducts of $\cdot\text{OH}$ and $\cdot\text{O}_2$. Free Radic Biol Med. 1989;6(2):179-83.

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