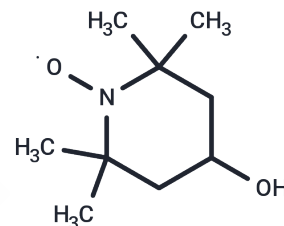


## Tempol

## Chemical Properties

CAS No. :	2226-96-2
Formula:	C <sub>9</sub> H <sub>18</sub> NO <sub>2</sub>
Molecular Weight:	172.25
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Tempol (Tanol) is a superoxide scavenger. It has anti-inflammatory, neuroprotective and analgesic effects.
Targets(IC50)	Reactive Oxygen Species, Autophagy, ROS
In vitro	Tempol (4-Hydroxy-TEMPO) is a stable, cell-permeable nitroxide that acts as a free radical scavenger and nitric oxide spin trap. Tempol Exhibits radio-protective and anti-proliferative properties. Tempol inhibits oxygen-dependent radiation-induced damage. [1] Tempol induces oxidative stress and enhances the levels of p21WAF1 in HL-60 cells in a dose-dependent manner. [2]
In vivo	Tempol reduces oxidant stress-mediated renal dysfunction and injury in the rat. [3] Tempol prevents cerebral vessel remodeling in hypertensive rats. [4] Tempol lowers blood pressure and sympathetic nerve activity but not vascular O <sub>2</sub> <sup>-</sup> in DOCA-salt rats. [5] Tempol restores mitochondrial and cardiac functions in TNF $\alpha$ -induced oxidative stress and reduces cardiac hypertrophy in chronic hypoxic rats. [6]
Cell Research	The antiproliferative effect of Tempol is assessed by the MTT assay after 96 h exposure of the cells to the drug. Briefly, 100,000 cells/mL are seeded onto 96-well plates and allowed to grow for 24 h before treatment with different concentrations of Tempol (0.05-1.6 mM). (Only for Reference)

## Solubility Information

Solubility	H <sub>2</sub> O: 100 mg/mL (580.55 mM), Sonication is recommended. Ethanol: 17.2 mg/mL (99.85 mM), Sonication is recommended. DMSO: 255 mg/mL (1480.41 mM), Sonication is recommended. ( < 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	5.8055 mL	29.0276 mL	58.0552 mL
5 mM	1.1611 mL	5.8055 mL	11.611 mL
10 mM	0.5806 mL	2.9028 mL	5.8055 mL
50 mM	0.1161 mL	0.5806 mL	1.1611 mL

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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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

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