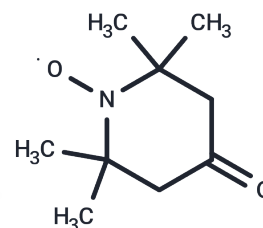


Tempone

Chemical Properties

CAS No. :	2896-70-0
Formula:	C ₉ H ₁₆ NO ₂
Molecular Weight:	170.23
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	Tempone is an aminooxyalkane that acts as a free radical scavenger and reacts with reactive oxygen species (ROS). Intravenous Tempone reduces mean arterial pressure in spontaneously hypertensive rats.
Targets(IC50)	Others,ROS
In vivo	Tempone (100 mg/kg i.v. bolus followed by 30 mg/kg i.v. infusion; rats) significantly improved both glomerular and tubular function (serum urea, creatinine, creatinine clearance, and fractional excretion of Na(+)) in a dose-dependent manner and significantly attenuated the reperfusion-injury associated with I/R (urinary N-acetyl-beta-D-glucosaminidase, aspartate aminotransferase, assessment of renal histology). Tempone also markedly reduced the immunohistochemical evidence of the formation of nitrotyrosine and poly(ADP-ribose), indicating a reduction of nitrosative and oxidative stress, respectively. Importantly, in contrast to its in vivo metabolite TEMPOL (which also provided protective effects against renal I/R and oxidative stress of PT cells), Tempone reduced renal dysfunction and injury without causing a significant reduction in blood pressure upon administration. These results suggest, for the first time, that Tempone can reduce the renal dysfunction and injury caused by I/R and the injury caused to PT cells by oxidative stress without producing the adverse cardiovascular effects observed when using other nitroxyl radicals.[2]

Solubility Information

Solubility	DMSO: 45 mg/mL (264.35 mM),Sonication is recommended. PBS (pH 7.2): 10 mg/mL (58.74 mM),Sonication is recommended. DMF: 30 mg/mL (176.23 mM),Sonication is recommended. Ethanol: 30 mg/mL (176.23 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.8744 mL	29.372 mL	58.7441 mL
5 mM	1.1749 mL	5.8744 mL	11.7488 mL
10 mM	0.5874 mL	2.9372 mL	5.8744 mL
50 mM	0.1175 mL	0.5874 mL	1.1749 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.

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

Snipes W, et al. Electron spin resonance analysis of the nitroxide spin label 2,2,6,6-tetramethylpiperidone-N-oxyl (Tempone) in single crystals of the reduced Tempone matrix. *Biophys J.* 1974;14(1):20-32.

Patel NS, et al. TEMPONE reduces renal dysfunction and injury mediated by oxidative stress of the rat kidney. *Free Radic Biol Med.* 2002;33(11):1575-1589.

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