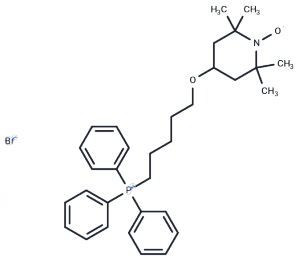
Data Sheet (Cat.No.T35965)

MitoTEMPOL

Chemical Properties



CAS No. :	1101113-39-6
Formula:	C32H42BrNO2P
Molecular Weight:	583.56
Storage:	Keep away from moisture,Keep away from direct sunlight 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	MitoTEMPOL is a mitochondria-targeted antioxidant that prevents septal dysfunction by reversing sepsis-induced decreases in mitochondrial function, activation of protein hydrolysis pathways, and reductions in myosin heavy chain content, as well as eliminating cytokine-induced increases in muscle cell superoxide production and decreases in cell size.
Targets(IC50)	Reactive Oxygen Species,Mitochondrial Metabolism,ROS
In vitro	MitoTEMPOL exhibits mitochondria-targeted antioxidant activity, relying on its reaction with ubiquinol to form the corresponding hydroxylamine, and demonstrates superior membrane-associated reactivity compared to non-targeted piperidine nitroxides.

Solubility Information

Solubility	DMF: 40 mg/mL (68.54 mM),Sonication is recommended. PBS (pH 7.2): 10 mg/mL (17.14 mM),Sonication is recommended. DMSO: 40 mg/mL (68.54 mM),Sonication is recommended. Ethanol: 40 mg/mL (68.54 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7136 mL	8.5681 mL	17.1362 mL
5 mM	0.3427 mL	1.7136 mL	3.4272 mL
10 mM	0.1714 mL	0.8568 mL	1.7136 mL
50 mM	0.0343 mL	0.1714 mL	0.3427 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

Trnka J, Blaikie FH, Smith RA, Murphy MP. A mitochondria-targeted nitroxide is reduced to its hydroxylamine by ubiquinol in mitochondria. Free Radic Biol Med. 2008 Apr 1;44(7):1406-19.
Zheng B X, Long W, Zheng W, et al.Mitochondria-Selective Dicationic Small-Molecule Ligand Targeting G-Quadruplex Structures for Human Colorectal Cancer Therapy.Journal of Medicinal Chemistry.2024