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Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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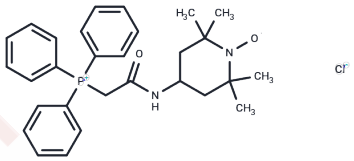
Data Sheet (Cat.No.T19428)

TargetMol

Mito-TEMPO

Chemical Properties



CAS No. : 1334850-99-5

Formula: C29H35N2O2P.Cl

Molecular Weight: 510.03

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Mito-TEMPO is a mitochondria-targeted superoxide dismutase mimetic. Mito-TEMPO scavenges superoxide and alkyl radicals and prevents mitochondrial oxidation, necrosis and apoptosis.
Targets(IC50)	Reactive Oxygen Species,Mitochondrial Metabolism
In vitro	**METHODS**: Human neuroblastoma cells SH-SY5Y were treated with Mito-TEMPO (25-100 μM) for 24 h. Cell viability was detected using MTT assay. **RESULTS**: No cytotoxic effect was shown on the cells in the Mito-TEMPO-treated group, and a significant increase in cell viability was detected after Mito-TEMPO treatment. [1] **METHODS**: Normal rat proximal renal tubular epithelial cell line NRK-52E was pretreated with Mito-TEMPO (10 μM) for 1 h, then stimulated with oxalate (700 μM) for 1 h. The mitochondrial membrane potential was detected by using MMP assay kit (JC-1). **RESULTS**: The control cells showed bright red fluorescence. Compared with the control, oxalate treatment attenuated the red fluorescence, and these changes were reversed by pretreatment with Mito-TEMPO. The **RESULTS** suggest that oxalate induces mitochondrial dysfunction, and Mito-TEMPO can inhibit this effect. [2]
In vivo	**METHODS**: To investigate the protective effect against hepatotoxicity, APAP (300 mg/kg) was intraperitoneally injected into C57BL/6J mice, and Mito-TEMPO (20 mg/kg in saline) was injected intraperitoneally 1.5-3 h later. **RESULTS**: Mito-TEMPO had a protective effect on the late hepatotoxicity of APAP. [3] **METHODS**: To investigate the effects on coronary vasodilatation and endothelial SK channel activity, Mito-TEMPO (1 mg/kg in saline) was intraperitoneally injected into C57BL/6J mice with or without diabetes once daily for four weeks. **RESULTS**: After 4 weeks of treatment with Mito-TEMPO, diabetic mice showed significantly improved endothelium-dependent diastolic responses of coronary arteries to ADP or NS309 and endothelial SK channel currents compared to untreated diabetic mice. [4]

Solubility Information

Solubility	H2O: 60 mg/mL (117.64 mM),Sonication is recommended. DMSO: 45 mg/mL (88.23 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9607 mL	9.8033 mL	19.6067 mL
5 mM	0.3921 mL	1.9607 mL	3.9213 mL
10 mM	0.1961 mL	0.9803 mL	1.9607 mL
50 mM	0.0392 mL	0.1961 mL	0.3921 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

Mukem S, et al. Mito-Tempo suppresses autophagic flux via the PI3K/Akt/mTOR signaling pathway in neuroblastoma SH-SY5Y cells. Heliyon. 2021 Jun 15;7(6):e07310.