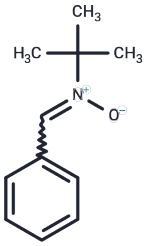
Data Sheet (Cat.No.T23046)

TargetMol

N-tert-butyl-α-Phenylnitrone

Chemical Properties



CAS No. : 3376-24-7

Formula: C11H15NO

Molecular Weight: 177.24

Storage: Keep away from moisture,Store at low temperature
Pure form: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	N-tert-butyl-α-Phenylnitrone ((Z)-N-benzylidene-2-Methylpropan-2-aMine oxide) inhibits COX2 catalytic activity. N-tert-butyl-α-Phenylnitrone((Z)-N-benzylidene-2-Methylpropan-2-aMine oxide) possesses potent reactive oxygen species scavenging, anti-inflammatory, neuroprotective, anti-aging, and anti-diabetic activities, and can penetrate the blood-brain barrier.
Targets(IC50)	Reactive Oxygen Species,COX,ROS
In vitro	Treatment of 25-100 μM N-tert-butyl-α-Phenylnitrone significantly reduces 2,2'-azobis (2-amidinopropane) dihydrochloride (AAPH)-induced intracellular ROS accumulation. N-tert-butyl-α-Phenylnitrone also attenuates AAPH-induced cytotoxicity, matrix degradation, and apoptosis, inhibiting AAPH-induced ERK/MAPK pathway activation[1].
In vivo	In C57Bl/6 mice induced by lipopolysaccharide (LPS), intraperitoneal injection of 100 mg/kg N-tert-butyl-α-Phenylnitrone twice a day (on gestational day 8) abolishes LPS-induced lipid peroxidation, nitrate tyrosine residue levels and GSH depletion, and reduces the incidence of external malformations[2].

Solubility Information

Solubility	DMSO: 255 mg/mL (1438.73 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 10 mg/mL (56.42 mM),Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (11.28 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.6421 mL	28.2103 mL	56.4207 mL
5 mM	1.1284 mL	5.6421 mL	11.2841 mL
10 mM	0.5642 mL	2.821 mL	5.6421 mL
50 mM	0.1128 mL	0.5642 mL	1.1284 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

Zhenggang Zhou, et al. PBN Protects NP Cells From AAPH-induced Degenerative Changes by Inhibiting the ERK1/2 Pathway. Connect Tissue Res. 2020 Mar 30;1-10.
Lei Zhao, et al. Reactive Oxygen Species Contribute to Lipopolysaccharide-Induced Teratogenesis in Mice. Toxicol Sci. 2008 May;103(1):149-57.