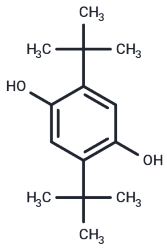
Data Sheet (Cat.No.T7540)

TargetMol

2,5-Di-tert-butylhydroquinone

Chemical Properties



CAS No. : 88-58-4

Formula: C14H22O2

Molecular Weight: 222.32

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	2,5-Di-tert-butylhydroquinone (BHQ) is an effective and selective endoplasmic reticulum Ca2+-ATPase inhibitor.
Targets(IC50)	Calcium Channel,COX,Lipoxygenase
In vitro	2,5-Di-tert-butylhydroquinone shifted the voltage dependence of the steady-state inactivation curve to more negative potentials by 7 mV in the mid-potential of the curve, without affecting the activation curve as well as the time course of I(Ca(L)) inactivation. Preincubation of the cells either with 10 microM cyclopiazonic acid, a SERCA inhibitor, or with 3 mM diethyldithiocarbamate, an inhibitor of intracellular superoxide dismutase (SOD), did not modify 2,5-Di-tert-butylhydroquinone inhibition of I(Ca(L)).On the contrary, this effect was no longer evident when SOD (250 u ml(-1)) was added to the perfusion medium.Either in the presence or in the absence of cells, 2,5-Di-tert-butylhydroquinone gave rise to superoxide anion formation, which was markedly inhibited by the addition of SOD.At micromolar concentrations, 2,5-Di-tert-butylhydroquinone inhibits vascular I(Ca(L)) by giving rise to the formation of superoxide anion which in turn impairs the channel function.

Solubility Information

Solubility	DMSO: 50 mg/mL (224.9 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (9 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	4.498 mL	22.4901 mL	44.9802 mL
5 mM	0.8996 mL	4.498 mL	8.996 mL
10 mM	0.4498 mL	2.249 mL	4.498 mL
50 mM	0.090 mL	0.4498 mL	0.8996 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

Fusi F , Saponara S , Gagov H , et al. 2,5-Di-t-butyl-1,4-benzohydroquinone (BHQ) inhibits vascular L-type Ca2+channel via superoxide anion generation [J]. British Journal of Pharmacology, 2001, 133(7):988-996.