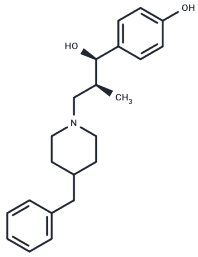
Data Sheet (Cat.No.T12758)

TargetMol

Ro 25-6981

Chemical Properties



CAS No. : 169274-78-6

Formula: C22H29NO2

Molecular Weight: 339.47

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	Ro 25-6981 is a potent and selective activity-dependent NMDA receptors blocker containing the NR2B subunit with IC50s of 0.009 and 52 μM for cloned receptor subunit combinations NR1C/NR2B and NR1C/NR2A respectively. Ro 25-6981 can be used in studies about Parkinson's disease.
Targets(IC50)	NMDAR,iGluR
In vivo	Ro 25-6981 (800 μg; intrathecally) shows significant analgesic effects on incision pain in rats and effectively attenuates postoperative hyperalgesia induced by remifentanil[3]. In 6-OHDA-lesioned rats, Ro 25-6981 (0.39-12.5 mg/kg; i.p.) dose-dependently induces contraversive rotations without stimulating locomotion in normal rats[4]. In male albino rats of Wistar strain, Ro 25-6981 (1 and 3 mg/kg; i.p.) exhibits activation- and age-dependent anticonvulsant action at early postnatal development and causes a significant decrease of N1-P2 amplitude at higher stimulation intensities at 3 mg/kg[5].

Solubility Information

Solubility	DMSO: 90 mg/mL (265.12 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: 3.3 mg/mL (9.72 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	2.9458 mL	14.7288 mL	29.4577 mL
5 mM	0.5892 mL	2.9458 mL	5.8915 mL
10 mM	0.2946 mL	1.4729 mL	2.9458 mL
50 mM	0.0589 mL	0.2946 mL	0.5892 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

Fischer G, et al. Ro 25-6981, a highly potent and selective blocker of N-methyl-D-aspartate receptors containing the NR2B subunit. Characterization in vitro. J Pharmacol Exp Ther. 1997 Dec;283(3):1285-92.
Liu T, Shi J, Wu D, et al.THSG alleviates cerebral ischemia/reperfusion injury via the GluN2B-CaMKII-ERK1/2 pathway.Phytomedicine.2024: 155595.
Lynch DR, et al. Pharmacological characterization of interactions of RO 25-6981 with the NR2B (epsilon2) subunit. Eur J Pharmacol. 2001 Mar 30;416(3):185-95.
Jiang M, et al. Antinociception and prevention of hyperalgesia by intrathecal administration of Ro 25-6981, a highly selective antagonist of the 2B subunit of N-methyl-D-aspartate receptor. Pharmacol Biochem Behav. 2013 Nov;112:56-63.
Löschmann PA, et al. Antiparkinsonian activity of Ro 25-6981, a NR2B subunit specific NMDA receptor antagonist, in animal models of Parkinson's disease. Exp Neurol. 2004 May;187(1):86-93.
Szczurowska E,et al. Different action of a specific NR2B/NMDA antagonist Ro 25-6981 on cortical evoked potentials and epileptic afterdischarges in immature rats. Brain Res Bull. 2015 Feb;111:1-8.