Data Sheet (Cat.No.T16451)

TargetMol

PEAQX tetrasodium hydrate

Chemical Properties

CAS No. :

Formula: C17H15BrN3Na4O6P

Molecular Weight: 560.15

Storage: 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	PEAQX tetrasodium hydrate (PEAQX tetrasodium hydrate (459836-30-7 free base)) is an orally available NMDA antagonist that is potent and selective. The IC50 value of PEAQX tetrasodium hydrate (459836-30-7 free base) against hNMDAR 1A/2A was 270 nM and 29600 nM against hNMDAR 1A/2B, respectively.
Targets(IC50)	Apoptosis,NMDAR,iGluR
In vitro	PEAQX has a high binding affinity for NMDA receptors (IC50=8 nM), and a functional preference in excess of 100-fold for hNMDA 1A/2A (IC50=of 270 nM) over 1A/2B receptors (IC50=29,600 nM).[1]
In vivo	PEAQX is practically inactive in Xenopus oocytes expressing hNMDA 1A/2B receptors, displays an ED50 value of 23 mg/kg in the MES test [1]. Sprague-Dawley rats were treated on PN7, PN9, and PN11 with PCP (10 mg/kg), PEAQX (NR2A-preferring antagonist; 10, 20, or 40 mg/kg), or ifenprodil (selective NR2B antagonist; 1, 5, or 10 mg/kg) and sacrificed for measurement of caspase-3 activity (an index of apoptosis) or allowed to age and tested for locomotor sensitization to PCP challenge on PN28-PN35. PCP or PEAQX on PN7, PN9, and PN11 markedly elevated caspase-3 activity in the cortex; ifenprodil showed no effect. Striatal apoptosis was evident only after subchronic treatment with a high dose of PEAQX (20 mg/kg). Animals treated with PCP or PEAQX on PN7, PN9, and PN11 showed a sensitized locomotor response to the PCP challenge on PN28-PN35.[2]

Solubility Information

Solubility	H2O: 22.9 mg/mL (40.88 mM),Sonication and heating are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7852 mL	8.9262 mL	17.8524 mL
5 mM	0.357 mL	1.7852 mL	3.5705 mL
10 mM	0.1785 mL	0.8926 mL	1.7852 mL
50 mM	0.0357 mL	0.1785 mL	0.357 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

Auberson YP, et al. 5-Phosphonomethylquinoxalinediones as competitive NMDA receptor antagonists with a preference for the human 1A/2A, rather than 1A/2B receptor composition. Bioorg Med Chem Lett. 2002;12(7):1099-1102.

Anastasio NC, et al. Differential role of N-methyl-D-aspartate receptor subunits 2A and 2B in mediating phencyclidine-induced perinatal neuronal apoptosis and behavioral deficits. Neuroscience. 2009;163(4):1181-1191.

Yu X, Jia L, et al. Src is Implicated in Hepatic Ischemia Reperfusion-Induced Hippocampus Injury and Long-Term Cognitive Impairment in Young Mice via NMDA Receptor Subunit 2A Activation. Neuroscience. 2018;391:1-12.