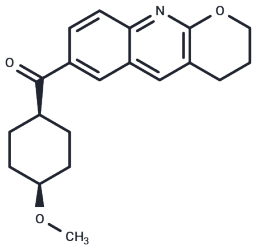
Data Sheet (Cat.No.T5512)

TargetMol

JNJ16259685

Chemical Properties



CAS No. : 409345-29-5

Formula: C20H23NO3

Molecular Weight: 325.4

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	JNJ16259685 (TN.T 16259685) is a selective mGluR1 antagonist, and inhibits the synaptic activation of mGluR1 in a concentration-dependent manner with IC50 of 19 nM.
Targets(IC50)	GluR
In vitro	JNJ16259685 non-competitively inhibited glutamate-induced Ca2+ mobilization with IC50 values of 3.24+/-1.00 and 1.21+/-0.53 nM, respectively, while showing a much lower potency at the rat and human mGlu5a receptor.?JNJ16259685 inhibited [3H]1-(3,4-dihydro-2H-pyrano[2,3-b]quinolin-7-yl)-2-phenyl-1-ethanone ([3H]R214127) binding to membranes prepared from cells expressing rat mGlu1a receptors with a Ki of 0.34+/-0.20 nM.?JNJ16259685 showed no agonist, antagonist or positive allosteric activity toward rat mGlu2, -3, -4 or -6 receptors at concentrations up to 10 microM and did not bind to AMPA or NMDA receptors, or to a battery of other neurotransmitter receptors, ion channels and transporters.?In primary cerebellar cultures, JNJ16259685 inhibited glutamate-mediated inositol phosphate production with an IC50 of 1.73+/-0.40 nM.?Subcutaneously administered JNJ16259685 exhibited high potencies in occupying central mGlu1 receptors in the rat cerebellum and thalamus (ED50=0.040 and 0.014 mg/kg, respectively)[3].
In vivo	JNJ16259685, a selective mGluR1 antagonist (negative allosteric modulator), was tested in assays of motor skill, and motor learning in rats and mice.?JNJ16259685 produced very minimal effects on locomotor activity and posture up to a dose of 30 mg/kg.?Motor skill was unaffected for well-learned tasks (up to 30 mg/kg) in rats, but impaired in mice.?Both rats and mice rats were profoundly impaired (0.3 mg/kg) in the acquisition of a novel motor skill (rotarod).?These results implicate the mGluR1 receptor in the acquisition of novel motor skills.?JNJ16259685 dramatically reduced rearing behavior, exploration of a novel environment and lever pressing for a food reward (rat: 0.3 mg/kg;?mouse: 1 mg/kg).?JNJ16259685 (30 mg/kg) had no effect on reflexive startle responses to loud auditory stimuli or foot shock in mice[1].

Solubility Information

Solubility	DMSO: 100 mg/mL (307.31 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: 4 mg/mL (12.29 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	3.0731 mL	15.3657 mL	30.7314 mL
5 mM	0.6146 mL	3.0731 mL	6.1463 mL
10 mM	0.3073 mL	1.5366 mL	3.0731 mL
50 mM	0.0615 mL	0.3073 mL	0.6146 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

Hodgson RA, et al. Characterization of the selective mGluR1 antagonist, JNJ16259685, in rodent models of movement and coordination. Pharmacol Biochem Behav. 2011 Apr;98(2):181-7.
Navarro JF,et al. JNJ16259685, a selective mGlu1 antagonist, suppresses isolation-induced aggression in male mice. Eur J Pharmacol. 2008 May 31;586(1-3):217-20.
Lavreysen H,et al. JNJ16259685, a highly potent, selective and systemically active mGlu1 receptor antagonist. Neuropharmacology. 2004 Dec;47(7):961-72.