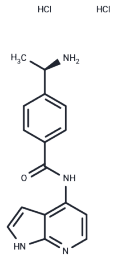
Data Sheet (Cat.No.T13384L)

TargetMol

Y-33075 dihydrochloride

Chemical Properties



CAS No. : 173897-44-4

Formula: C16H18Cl2N4O

Molecular Weight: 353.25

Storage: Store at low temperature,Keep away from direct sunlight
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	Y-33075 dihydrochloride is a selective inhibitor of ROCK with an IC50 of 3.6 nM.
Targets(IC50)	CaMK,PKC,ROCK
In vitro	Y-33075 (Y-39983) is a potent inhibitor of ROCK with an IC50 of 3.6 nM and exhibits greater inhibitory effects on PKC and CaMKII compared to Y-27632. The IC50 values for PKC are 9.0 μM for Y-27632 and 0.42 μM for Y-33075, while for CaMKII, the IC50s are 26 μM and 0.81 μM, respectively. The IC50s for Y-27632 and Y-33075 for PKC are 82 and 117 times higher than for ROCK, respectively, and for CaMKII, they are 236 and 225 times higher than for ROCK, respectively [1]. Y-33075 (Y-39983, 10 μM) promotes neurite extension in retinal ganglion cells (RGCs) compared to untreated cells [2], and at 1 μM, it inhibits the histamine-evoked contraction of rabbit ciliary artery segments in Ca2+-free solutions [3].
In vivo	Y-33075 (≥0.01%) significantly lowers intraocular pressure (IOP) at 2 hours after topical administration in rabbits. Y-33075 (0.05%)-treated eyes show significant reduction of IOP between 2 and 7 hours after topical administration in monkeys[1]. Y-33075 (100 μM) increases the regenerating axons of retinal ganglion cells (RGCs) in the eyes of the rats [2].

Solubility Information

Solubility	DMSO: 150 mg/mL (424.63 mM),Sonication is recommended. H2O: 50 mg/mL (141.54 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 (28.31 mM),Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (11.32 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	2.8309 mL	14.1543 mL	28.3086 mL
5 mM	0.5662 mL	2.8309 mL	5.6617 mL
10 mM	0.2831 mL	1.4154 mL	2.8309 mL
50 mM	0.0566 mL	0.2831 mL	0.5662 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

Hideki Tokushige, et al. Effects of Topical Administration of Y-39983, a Selective Rho-Associated Protein Kinase Inhibitor, on Ocular Tissues in Rabbits and Monkeys Invest. Ophthalmol. Vis. Sci. July 2007 vol. 48no. 7 3216-3222
Tokushige H, et al. Effects of Y-39983, a selective Rho-associated protein kinase inhibitor, on blood flow in optic nerve head in rabbits and axonal regeneration of retinal ganglion cells in rats. Curr Eye Res. 2011 Oct;36(10):964-70.
Watabe H, et al. Effects of Rho-associated protein kinase inhibitors Y-27632 and Y-39983 on isolated rabbit ciliary arteries.Jpn J Ophthalmol. 2011 Jul;55(4):411-7. Epub 2011 Jun 11.