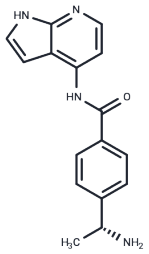
Data Sheet (Cat.No.T13384)

TargetMol

Y-33075

Chemical Properties



CAS No. : 199433-58-4

Formula: C16H16N4O

Molecular Weight: 280.32

Storage: Keep away from direct sunlight,Store at low temperature
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 (Y-39983 free base) is a ROCK inhibitor that lowers intraocular pressure (IOP), increases blood flow to the optic nerve head (ONH), and increases the number of RGCs (retinal ganglion cells) in the body with regenerating axons.
Targets(IC50)	ROCK
In vitro	The in vitro activity of Y-33075 was evaluated in cultured human umbilical vein endothelial cells (HUVECs). After seeding, HUVECs were treated with medium containing Y-33075 (1μM) for 15 or 30 minutes. The cells exhibited contraction after treatment, but their morphology recovered within 1 hour after the removal of Y-33075. These results indicate that Y-33075 induces endothelial cell contraction, suggesting a potential effect on vascular barrier function [1].
In vivo	In rabbits, a single 50μL dose of Y-33075 (0.003%-0.1%) reduced IOP by up to 13.2±0.6mmHg (0.1%, 2h), and repeated dosing (0.03%, 4×/day for 28 days) maintained a 7.0-9.6mmHg reduction. In monkeys, 0.05% Y-33075 reduced IOP by 2.5±0.8mmHg at 3h. Y-33075 also enhanced conventional outflow in rabbits (+65.5%), with minimal side effects except occasional subconjunctival hemorrhage at high dosing frequency [2].

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble),Sonication is recommended. DMSO: 40 mg/mL (142.69 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 (7.13 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	3.5674 mL	17.8368 mL	35.6735 mL
5 mM	0.7135 mL	3.5674 mL	7.1347 mL
10 mM	0.3567 mL	1.7837 mL	3.5674 mL
50 mM	0.0713 mL	0.3567 mL	0.7135 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
Bachtler N, et al. The non-selective Rho-kinase inhibitors Y-27632 and Y-33075 decrease contraction but increase migration in murine and human hepatic stellate cells. PLoS One. 2023 Jan 31;18(1):e0270288.
Reboussin É, et al. Evaluation of Rho kinase inhibitor effects on neuroprotection and neuroinflammation in an ex-vivo retinal explant model. Acta Neuropathol Commun. 2024 Sep 14;12(1):150.

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