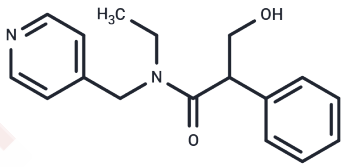
Data Sheet (Cat.No.T1281)

TargetMol

Tropicamide

Chemical Properties



CAS No. : 1508-75-4

Formula: C17H20N2O2

Molecular Weight: 284.35

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	Tropicamide (Ro 1-7683) is a synthetic muscarinic antagonist with anticholinergic properties similar to atropine. Upon ocular administration, it binds to and blocks muscarinic receptors in the sphincter and ciliary muscles, inhibiting cholinergic responses and causing pupil dilation and ciliary muscle paralysis. Tropicamide is used as a diagnostic agent to induce short-duration mydriasis and cycloplegia.
Targets(IC50)	AChR
In vitro	At a concentration of 0.5%, Nepafenac significantly inhibits (46%) the breakdown of the blood-retinal barrier, leading to a 65% reduction in retinal edema, and almost completely suppresses PGE2 synthesis (96%). Nepafenac's bioavailability in ocular tissue is notably higher. Its inhibitory action on COX-1 is weaker (IC50: 64.3 μM). In rabbits, Nepafenac inhibits prostaglandin synthesis within the retina/choroid (55%) and in the iris/ciliary body (85-95%). Compared to control mice, Nepafenac substantially reduces choroidal neovascularization and ischemia-induced retinal neovascularization and also slows the increase in ischemia-induced retinal VEGF mRNA expression. In ocular and metastatic animal models, Nepafenac delays the progression of malignant tumors and decreases the weight of choroidal melanoma. In retinal microvessels of diabetic rats with insulin deficiency, Nepafenac markedly suppresses retinal prostaglandin E (2), superoxide, cyclooxygenase-2, and leukostasis, but does not affect vascular endothelial growth factor and nitric oxide. In diabetic rats, the compound significantly inhibits the number of dUTP nick end labeling (TUNEL) positive capillary cells, pericytes, and acellular capillaries mediated by transferase.

Solubility Information

Solubility	DMSO: 60 mg/mL (211.01 mM),Sonication is recommended. Ethanol: 53 mg/mL (186.39 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 (7.03 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	3.5168 mL	17.584 mL	35.1679 mL
5 mM	0.7034 mL	3.5168 mL	7.0336 mL
10 mM	0.3517 mL	1.7584 mL	3.5168 mL
50 mM	0.0703 mL	0.3517 mL	0.7034 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

Betz AJ, et al. Psychopharmacology (Berl). 2007 Oct;194(3):347-59.