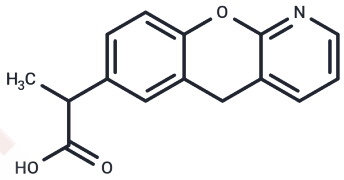
Data Sheet (Cat.No.T0159)

TargetMol

Pranoprofen

Chemical Properties



CAS No. : 52549-17-4

Formula: C15H13NO3

Molecular Weight: 255.27

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	Pranoprofen (Pyranoprofen) (INN) is a non-steroidal anti-inflammatory drug used in ophthalmology.
Targets(IC50)	Apoptosis,COX,PGE Synthase,Prostaglandin Receptor
In vitro	Pranoprofen inhibits ER stress-induced glucose regulated protein 78 (GRP78) expression, an ER-localized molecular chaperon. Pranoprofen inhibits ER stress-induced CCAAT/enhancer-binding protein homologous protein (CHOP) expression, an apoptotic transcription factor. Pranoprofen alone induces eIF2alpha phosphorylation, which is further increased by ER stress. Pranoprofen inhibits ER stress-induced X-box-binding protein 1 (XBP-1) splicing in the primary cultured glial cells. [1] Pranoprofen (0.0625 to 1.0 g/L) has poignant cytotoxicity to human corneal endothelial (HCE) cells, and the extent of its cytotoxicity is dose- and time-dependent. Pranoprofen induces plasma membrane permeability elevation, DNA fragmentation, and apoptotic body formation, proving its apoptosis inducing effect on HCE cells. Pranoprofen above 0.0625 g/L has poignant cytotoxicity on HCE cells in vitro by inducing cell apoptosis, and should be carefully employed in eye clinic. [2]
In vivo	Pranoprofen is orally administered, urinary and fecal excretions of the radioactivity within 3 days are 81.1% and 18.7% of the dose in mice, 51.5% and 39.4% in rats, 81.8% and 9.0% in guinea pigs, and 93.2% and 3.6% in rabbits, respectively. [3] Pranoprofen is excreted in the urine exclusively in the form of pranoprofen glucuronide in rabbit. Pranoprofen, especially the R(-)-isomer, is significantly distributed in the kidney of rabbit. [4] Pranoprofen has a preference for glucosidation rather than glucuronidation in mice at low doses in spite of having a higher capacity of glucuronidation. [5]

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: 6 mg/mL (23.5 mM),Sonication is recommended. DMSO: 50 mg/mL (195.87 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 (7.83 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.*

In vivo Formulation	*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	3.9174 mL	19.5871 mL	39.1742 mL
5 mM	0.7835 mL	3.9174 mL	7.8348 mL
10 mM	0.3917 mL	1.9587 mL	3.9174 mL
50 mM	0.0783 mL	0.3917 mL	0.7835 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

Hosoi T, et al. Neurochem Int,2009, 54(1), 1-6.
Li YH, et al. Drug Chem Toxicol,2015, 38(1), 16-21.
Arima N, et al. J Pharmacobiodyn, 1990, 13(12), 739-744.
Nomura T, et al. Biol Pharm Bull, 1993, 16(3), 298-303.
Arima N, et al. J Pharmacobiodyn,1990, 13(12), 719-723.