Data Sheet (Cat.No.T2134)

TargetMol

Dorzolamide hydrochloride

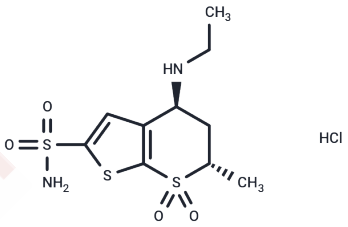
Chemical Properties

CAS No. : 130693-82-2

Formula: C10H17ClN2O4S3

Molecular Weight: 360.9

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	Dorzolamide hydrochloride (MK507 hydrochloride) is the hydrochloride salt form of dorzolamide, an inhibitor of carbonic anhydrase, a zinc-containing enzyme that catalyzes the rapid conversion of carbon dioxide and water into carbonic acid, protons and bicarbonate ions. Distributed throughout many cells and tissues, various carbonic anhydrases play important roles in mineral and metabolic homeostasis.
Targets(IC50)	Carbonic Anhydrase
In vitro	In rabbits, Dorzolamide hydrochloride significantly reduces intraocular pressure (IOP) and is effective at night as well. Dorzolamide substantially decreases IOP in glaucoma-afflicted monkeys by 22%, 30%, and 37%. The combination of Dorzolamide (administered topically to the eye for 1 to 5 days) and oral methazolamide (administered from day 3 to day 5) significantly lower IOP, with this effect persisting on days 1, 3, and 5. Compared to the regimen of twice-daily oral methazolamide and 2% Dorzolamide, applying Dorzolamide (2%) topically three times a day achieves a similar reduction in IOP.
In vivo	Dorzolamide induces dilation of retinal blood vessels through three distinct mechanisms that directly cause precontraction, independent of extracellular pH changes. It acts as a potent inhibitor of carbonic anhydrase (CA) II, penetrating the sclera and cornea to reach the ciliary processes and reduce the formation of HCO3 and aqueous humor.

Solubility Information

Solubility	H2O: 13.3 mg/mL (36.85 mM),Sonication is recommended. DMSO: 260 mg/mL (720.42 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 (27.71 mM),Solution. *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	2.7709 mL	13.8543 mL	27.7085 mL
5 mM	0.5542 mL	2.7709 mL	5.5417 mL
10 mM	0.2771 mL	1.3854 mL	2.7709 mL
50 mM	0.0554 mL	0.2771 mL	0.5542 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

Maren TH, et al. J Ocul Pharmacol Ther, 1997, 13(1), 23-30.
Josefsson A1, et al. Exp Eye Res, 2004, 78(2), 215-221.
Gelatt KN, et al. Vet Ophthalmol, 2001, 4(1), 61-67.
Percicot CL, et al. J Pharmacol Toxicol Methods, 1996, 36(4), 223-228.
Sugrue MF, et al. J Ocul Pharmacol Ther, 1996, 12(3), 363-376.