
Product Data Sheet

Product Name: Dorzolamide

Cat. No.: GC13932

Chemical Properties

Cas. No. 120279-96-1

Chemical Name (4S,6S)-4-(ethylamino)-6-methyl-7,7-dioxo-5,6-dihydro-4H-thieno[2,3-b]thiopyran-2-sulfonamide

SMILES CCNC1CC(S(=O)(=O)C2=C1C=C(S2)S(=O)(=O)N)CFormula $C_{10}H_{16}N_2O_4S_3$ M.Wt 324.44

Solubility Soluble in DMSO Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

Background

Dorzolamide(L671152; MK507) is an anti-glaucoma agent, which is a carbonic anhydrase inhibitor. Target: carbonic anhydrase (CA) Dorzolamide is a carbonic anhydrase inhibitor. It is an anti-glaucoma agent, and acts by decreasing the production of aqueous humour [1]. Glaucoma was induced in the right eye of adult Wistar rats by episcleral venous occlusion. One experimental group was administered dorzolamide 2%-timolol 0.5% combination eye drops, while the other experimental group was administered dorzolamide 2% eye drops. Control groups had surgery without drug administration. Drug application was initiated either 2 weeks before surgery (Group A), from the day of surgery (Group B), 2 weeks after surgery (Group C), or 4 weeks after surgery (Group D). RGCs were labeled by intratectal Fluorogold injections and counted from flat-mount preparations, and IOP was measured using Tonopen. Both dorzolamide-timolol combination and dorzolamide, when applied topically, significantly reduced IOP and improved RGC densities in experimental eyes when compared to control eyes. Earlier initiation, as well as longer duration of drug application, resulted in higher RGC densities

Caution: Product has not been fully validated for medical applications. For research use only.

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[2]. Clinical indications: Glaucoma; Ocular hypertension FDA Approved Date: 1995
Toxicity: Dizziness, headache, shortness of breath, slow heartbeat, severe asthma, cardiac arrest

References:

- [1]. Rankin AJ, et al. Effects of ocular administration of ophthalmic 2% dorzolamide hydrochloride solution on aqueous humor flow rate and intraocular pressure in clinically normal cats. *Am J Vet Res.* 2012 Jul;73(7):1074-8.
- [2]. Sarup V, et al. Dorzolamide and timolol saves retinal ganglion cells in glaucomatous adult rats. *J Ocul Pharmacol Ther.* 2005 Dec;21(6):454-62.

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