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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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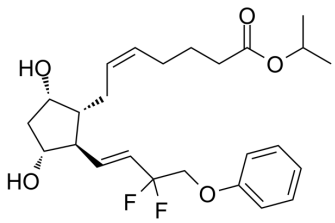
Tafluprost

Cat. No.:	HY-B0600
CAS No.:	209860-87-7
Molecular Formula:	$C_{25}H_{34}F_2O_5$
Molecular Weight:	452.53
Target:	Others
Pathway:	Others
Storage:	Pure form -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 270 mg/mL (596.65 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Concentration / Solvent / Mass	1 mg	5 mg	10 mg
	1 mM	2.2098 mL	11.0490 mL	22.0980 mL
	5 mM	0.4420 mL	2.2098 mL	4.4196 mL
	10 mM	0.2210 mL	1.1049 mL	2.2098 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.25 mg/mL (4.97 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.25 mg/mL (4.97 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.25 mg/mL (4.97 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tafluprost (AFP-168) is an anti-glaucoma prostaglandin (PG) analog. Tafluprost can inhibit the apoptosis of retinal ganglion cells (RGCs) and rat RGCs cells. Tafluprost promotes axon regeneration by regulating Zn^{2+}-mTORpathway, inhibits intracellular lipid accumulation in human preorbital adipocytes. Tafluprost can be used in the study of optic nerve injury in glaucoma[1][2][3][4][5].

In Vitro

Tafluprost (3 μM, 48 h) decreases the number of apoptosis in RGC-5 cells[1].

Tafluprost (0.1-100 μM, 48 h) enhances cell viability in RGC-5 cells in a dose-dependent manner[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay [2]

Cell Line:	RGC
Concentration:	0.1, 1, 3, 10, 100 μM
Incubation Time:	48 h
Result:	Enhanced the viability of these cells in a dose-dependent fashion, with an optimal concentration of 3μM. Increased the relative fluorescence intensity (RFI).

In Vivo

Tafluprost (0.0015% AFP168 eye drops, continuous administration for 14 days) in male Sprague-Dawley rats can reduce optic nerve compression (ONC) intraocular pressure, increase RGC cell viability, and reduce retinal nerve cell apoptosis[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Sprague rat model[2]
Dosage:	0.0015%
Administration:	Via eye drops
Result:	Increased the number of RGCs and reduced the number of TUNEL-positive cells.

Animal Model:	Prostaglandin receptor deletion C57BL/6 mice model[3]
Dosage:	3 μL (0.0015% Tafluprost)
Administration:	Instillation; Single dose
Result:	Reduced IOP in WT, EP1KO, EP2KO, EP3KO and FPKO mice, and the average IOP reduction rates were 25.8(2.1)%, 26.3(0.8)%, 24.2(1.4)%, 16.5(1.7)% and 20.9(1.5)%, respectively. (The decrease of IOP in EP3KO and FPKO mice was less than that in WT mice.)

REFERENCES

[1]. Kanamori A, et al. Tafluprost protects rat retinal ganglion cells from apoptosis in vitro and in vivo. Graefes Arch Clin Exp Ophthalmol. 2009 Oct;247(10):1353-60.

[2]. Ota T, et al. The IOP-lowering effects and mechanism of action of tafluprost in prostanoid receptor-deficient mice. Br J Ophthalmol. 2007 May;91(5):673-6.

[3]. Kuwayama, Y. and A. Nomura, Prospective observational post-marketing study of tafluprost for glaucoma and ocular hypertension: short-term efficacy and safety. Adv Ther, 2014. 31(4): p. 461-71.

[4]. Kumagami, T., et al., Comparison of corneal safety and intraocular pressure-lowering effect of tafluprost ophthalmic solution with other prostaglandin ophthalmic solutions. J Ocul Pharmacol Ther, 2014. 30(4): p. 340-5.

[5]. Inoue, K., A. Tanaka, and G. Tomita, Effects of tafluprost treatment for 3 years in patients with normal-tension glaucoma. Clin Ophthalmol, 2013. 7: p. 1411-6.

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

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