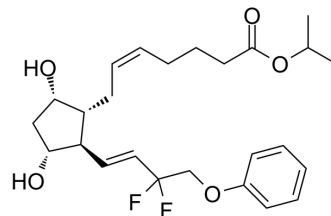


Tafluprost

Cat. No.:	HY-B0600		
CAS No.:	209860-87-7		
Molecular Formula:	C ₂₅ H ₃₄ F ₂ O 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.

Concentration	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

- 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
- 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
- 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 Zn²⁺-mTOR pathway, 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 μ M, 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 μ M
Incubation Time:	48 h
Result:	Enhanced the viability of these cells in a dose-dependent fashion, with an optimal concentration of 3 μ M. 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 μ L (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

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

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