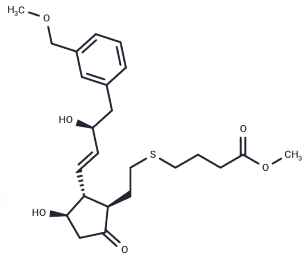
Data Sheet (Cat.No.T36080)

TargetMol

Rivenprost

Chemical Properties



CAS No. : 256382-08-8

Formula: C24H34O6S

Molecular Weight: 450.59

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	Rivenprost is a selective agonist of the prostaglandin E receptor (EP4), exhibiting extremely high selectivity for the EP4 receptor with a Ki value of 0.7 nM. Rivenprost can be used in research on bone metabolism regulation, as well as anti-inflammatory and tissue protection studies.
Targets(IC50)	Prostaglandin Receptor
In vitro	Method: Rivenprost (1 nM, 10 nM, 100 nM, 1 μM) was added to C3H10T1/2 cells, which were incubated for 7 days, followed by ALPase activity assays. Results: Rivenprost induced ALPase activity in a concentration-dependent manner and stimulated osteoblast differentiation. [2]
In vivo	Methods: To investigate the intraocular pressure-lowering effects of Rivenprost, 0.005% Rivenprost (50 μg/mL) was instilled into both eyes of DBA/2J mice (spontaneous pigmentary glaucoma) at a dose of approximately 5 μL per eye, once daily for 14 days. Results: Rivenprost effectively reduced the elevated intraocular pressure caused by glaucoma. [1] Methods: SD rats were administered Rivenprost (10 μg/kg) via subcutaneous injection twice daily for 5 weeks. Results: Rivenprost significantly increased bone volume, trabecular bone count, mineralization rate, and bone formation rate. [2] Methods: Wistar rats received a single intraperitoneal injection of ONO-4819 (0.2 mg/kg), GalN (1 g/kg), or LPS (100 mg/kg); ONO-4819 was administered concurrently with GalN/LPS. Results: Rivenprost exerts a hepatoprotective effect against GalN/LPS-induced liver injury in Wistar rats via inflammatory cytokines such as TNF-α. [3]

Solubility Information

Solubility	DMF: 15 mg/mL (33.29 mM),Sonication is recommended. Ethanol: 15 mg/mL (33.29 mM),Sonication is recommended. DMSO: 10 mg/mL (22.19 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2193 mL	11.0966 mL	22.1931 mL
5 mM	0.4439 mL	2.2193 mL	4.4386 mL
10 mM	0.2219 mL	1.1097 mL	2.2193 mL
50 mM	0.0444 mL	0.2219 mL	0.4439 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

Arcuri J, et al. Ocular Treatments Targeting Separate Prostaglandin Receptors in Mice Exhibit Alterations in Intraocular Pressure and Optic Nerve Lipidome. J Ocul Pharmacol Ther. 2023;39(8):541-550.
Ninomiya T, et al. Prostaglandin E(2) receptor EP(4)-selective agonist (ONO-4819) increases bone formation by modulating mesenchymal cell differentiation. Eur J Pharmacol. 2011;650(1):396-402.
Kasai K, et al., A novel prostaglandin E receptor subtype agonist, 0N0-4819, attenuates acute experimental liver injury in rats. Hepatol Res. 2001 Nov;21(3):252-260.
Nakagawa, K., Imai, Y., Ohta, Y., et al. Prostaglandin E2 EP4 agonist (ONO-4819) accelerates BMP-induced osteoblastic differentiation. Bone 41, 543-548 (2007).
Hayashi, K., Fotovati, A., Abu Ali, S., et al. Effect of a prostaglandin EP4 receptor agonist on early fixation of hydroxyapatite/titanium composite- and titanium-coated rough-surfaced implants in ovariectomized rats. J. Biomed.Mater.Res.A 92(3), 1202-1209 (2010).
Honma, Y., Arai, I., Hashimoto, Y., et al. Prostaglandin D2 and prostaglandin E2 accelerate the recovery of cutaneous barrier disruption induced by mechanical scratching in mice. European Journal of Pharmacology 518, 56-62 (2005).