Rivenprost

Cat. No.: HY-114974

CAS No.: 256382-08-8

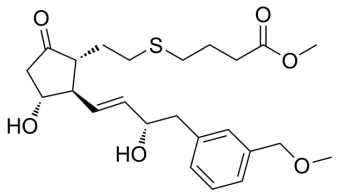
Molecular Formula: $C_{24}H_{34}O_6S$

Molecular Weight: 450.59

Target: Prostaglandin Receptor

Pathway: GPCR/G Protein

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Rivenprost (ONO-4819; ONO-AE1-734) is a selective agonist for prostaglandin E receptor EP4 with K_i of 0.7 nM. Rivenprost exhibits hepatoprotective and bone anabolic effects[1][2].

IC_{50} & Target

EP4
0.7 nM (Ki)

In Vitro

Rivenprost (1 nM–1 μM) stimulates the osteoblast differentiation through upregulation of Runx2 and Osterix, leading to increased bone formation[1].
Rivenprost (1 nM–1 μM) inhibits the adipocytes differentation in bone by downregulating the mRNA expression of PPARγ[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

RT-PCR[1]

Cell Line:	C3H10T1/2
Concentration:	1 nM–1 μM
Incubation Time:	7 days
Result:	Reduced PPARγ in a dose-dependent manner.

In Vivo

Rivenprost (10 μg/kg, s.c. for 5 weeks) increases bone formation and decreases levels of age-dependent adipocytes in Sprague-Dawley rats[1].
Rivenprost (0.2 mg/kg, i.p., single dosage) exhibits hepatoprotective efficacy towards GalN-/LPS-induced liver injury in wistar rats through inflammatory cytokines such as TNF-α[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Sprague Dawley rats[1]
Dosage:	10 μg/kg
Administration:	s.c., twice a day for 5 weeks
Result:	Increased osteoblast number, bone volume, mineral apposition rate and bone formation

	rate. Decreased adipocyte number.

Animal Model:	GalN/LPS-induced acute liver injury in wistar rats[2]
Dosage:	0.2 mg/kg
Administration:	i.p., single dosage
Result:	Inhibited development of hepatic necrosis, decreased levels of AST, ALT, TNF-α and IFN-γ.

REFERENCES

[1]. 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 Jan 10;650(1):396-402.

[2]. 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.

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