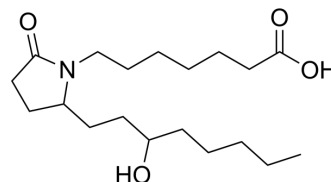


CAY10580

Cat. No.:	HY-135259
CAS No.:	64054-40-6
Molecular Formula:	C ₁₉ H ₃₅ NO ₄
Molecular Weight:	341.49
Target:	Prostaglandin Receptor
Pathway:	GPCR/G Protein
Storage:	Solution, -20°C, 2 years



BIOLOGICAL ACTIVITY

Description	CAY10580 is a potent and selective prostaglandin EP ₄ receptor agonist (K _i =35 nM) ^[1] .			
IC₅₀ & Target	EP4 35 nM (Ki)	EP2 3000 nM (Ki)	EP3 2000 nM (Ki)	EP1 >3000 nM (Ki)
In Vitro	CAY10580 (10-10000 nM; 40 min) significantly increases apical membrane abundance of AQP2 in MDCK cells at 100 to 10000 nM ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.			
In Vivo	CAY10580 (200 µg/kg body weight; i.p; daily for three weeks) effectively prevents diet-induced hypercholesterolemia, enhances endogenous bile acid synthesis and their fecal excretion ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.			
	Animal Model:	Six-week old male EP ₄ ^{+/+} mice (Treating high fat diet-challenged mice) ^[3]		
	Dosage:	200 µg/kg body weight		
	Administration:	Intraperitoneal injection; daily for remaining three weeks		
	Result:	High fat diet fed mice exhibited lower total cholesterol levels compared to the vehicle group by 28.5%. Total cholesterol levels decreased from 137.4 to 98.2 mg/dl, restoring plasma cholesterol back to near-normal values.		

REFERENCES

- [1]. Billot X, et al. Discovery of a potent and selective agonist of the prostaglandin EP₄ receptor. *Bioorg Med Chem Lett*. 2003;13(6):1129-1132.
- [2]. Olesen ET, et al. Vasopressin-independent targeting of aquaporin-2 by selective E-prostanoid receptor agonists alleviates nephrogenic diabetes insipidus. *Proc Natl Acad Sci U S A*. 2011;108(31):12949-12954.
- [3]. Ying F, et al. EP₄ emerges as a novel regulator of bile acid synthesis and its activation protects against hypercholesterolemia. *Biochim Biophys Acta Mol Cell Biol Lipids*. 2018;1863(9):1029-1040.

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

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