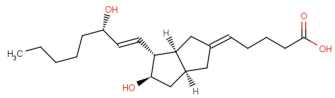
Data Sheet (Cat.No.T10673)

TargetMol
A DRUG SCREENING EXPERT

Carbacyclin

Chemical Properties



CAS No.:	69552-46-1
Formula:	C21H34O4
Molecular Weight:	350.49
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	Carbacyclin, a PGI2 analog, is a prostacyclin (PGI2) receptor agonist and vasodilator with potent inhibitory platelet aggregation.
Targets(IC_{50})	PGI2 Receptor: None
In vitro	Carbacyclin acts as an inhibitor of platelet aggregation induced by ADP or collagen in vitro[2]. Carbacyclin activates CPT-1 mRNA expression through PPARδ, independent of the IP receptor signaling pathway. Carbacyclin (0.02 μM to 20 μM) activates the IP receptor signaling pathway via PKA, and such an effect is inhibited by H-89, a PKA inhibitor. Carbacyclin (0.02-80 μM) increases PPRE promoter activity via PPARδ independent of the IP receptor signaling pathway in cardiomyocytes [3].
In vivo	Carbacyclin is 0.03 times as active as prostacyclin on inhibiting platelet aggregation in human, rabbit, or dog plasma [2]. In the murine heart, Carbacyclin (100 μg, i.p.) induces CPT-1 mRNA expression [3].

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.853 mL	14.266 mL	28.531 mL
5 mM	0.571 mL	2.853 mL	5.706 mL
10 mM	0.285 mL	1.427 mL	2.853 mL
50 mM	0.057 mL	0.285 mL	0.571 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Takasuka M, et al. FTIR spectral study of intramolecular hydrogen bonding in thromboxane A2 receptor agonist (U-46619), prostaglandin (PG)E2, PGD2, PGF2 alpha, prostacyclin receptor agonist (carbacyclin), and their related compounds in dilute CCl4 solution: structure-activity relationships. J Med Chem. 1994 Jan 7;37(1):47-56.

2. Whittle BJ, et al. Carbacyclin--a potent stable prostacyclin analogue for the inhibition of platelet aggregation. Prostaglandins. 1980 Apr;19(4):605-27.

3. Kuroda T, et al. Carbacyclin induces carnitine palmitoyltransferase-1 in cardiomyocytes via peroxisome proliferator-activated receptor (PPAR) delta independent of the IP receptor signaling pathway. J Mol Cell Cardiol. 2007 Jul;43(1):54-62.

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