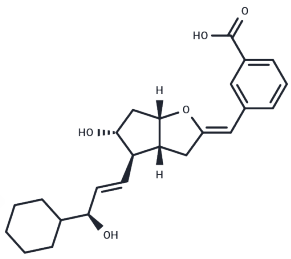
Data Sheet (Cat.No.T41251)

TargetMol

Taprostene

Chemical Properties



CAS No. : 108945-35-3

Formula: C24H30O5

Molecular Weight: 398.49

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	Taprostene (CG-4203), a synthetic and chemically stable analogue of Prostacyclin (PGI2), effectively protects the endothelium and myocardium following acute myocardial ischemia and reperfusion in cats. It enhances cytoprotective actions and minimizes undesired hemodynamic effects [1].
Targets(IC50)	Others,Prostaglandin Receptor
In vivo	Taprostene, administered intravenously at 100 ng/kg/min starting 30 minutes after occlusion of the left anterior descending coronary artery and continuing through 1 hour of reperfusion in a 6-hour myocardial ischemia (MI) model with reperfusion in anesthetized cats, significantly reduces plasma creatine phosphokinase activity in the MI + Taprostene group compared to the MI + vehicle group. This compound exhibits a multifaceted activity profile, including inhibition of platelet aggregation at much lower concentrations than those needed for significant vasodilation in rabbit aortic rings, suggesting antiaggregatory and cytoprotective roles in circulatory shock, acute inflammatory conditions, and rat models of myocardial hypoxia and permanent ischemia. Initial tests with varying infusion rates from 50 to 200 ng/kg/min determined an optimal rate that minimized vasodilatory (hemodynamic) effects while maintaining cardioprotective benefits. Taprostene also effectively prevents neutrophil adherence to myocardial endothelium in areas of ischemia and reperfusion injury [1]. This study employed adult male cats weighing between 2.5 to 3.5 kg, using a dosage of 100 ng/kg infused intravenously at 100 ng/kg/min for the duration of the 5.5-hour experiment [1]. Notably, in six cat aortic rings, concentrations of 1-100 ng/mL of Taprostene did not induce vasorelaxation, achieving a 34% relaxation at 300 ng/mL, with an EC50 of 520 ng/mL, which is 26 times higher than the concentration needed for its antiplatelet effect in cat platelet-rich plasma.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5095 mL	12.5474 mL	25.0947 mL
5 mM	0.5019 mL	2.5095 mL	5.0189 mL
10 mM	0.2509 mL	1.2547 mL	2.5095 mL
50 mM	0.0502 mL	0.2509 mL	0.5019 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.

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