Product Data Sheet

Product Name: U-44069
Cat. No.: GC18132

Chemical Properties

Cas. No.	56985-32-1		
Chemical Name	9,11-dideoxy-9α,11α-epoxymethano-prosta-5Z,13E-dien-1-oic acid		
SMILES	CCCCC[C@H](O)/C=C/[C@H]1C(CO2)CC2[C@@H]1C/C=C\CCCC(O)=O		
Formula	$C_{21}H_{34}O_4$	M.Wt	350.5
Solubility	≤100mg/ml in ethanol;100mg/ml in DMSO;100mg/ml in dimethyl formamide	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	U-44069		

Background

EC50: 3 μM and 54 nM for platelet aggregation and phosphatidate formation in human platelets, respectively

U-44069 is a TP receptor agonist.

Increased production of vasoconstrictive prostanoids, such as thromboxane A2, contributes to endothelial dysfunction and increased hepatic vascular tone in cirrhosis. Thromboxane A2 induces vasoconstriction via activation of the thromboxane-A2 /prostaglandin-endoperoxide (TP) receptor.

In vitro: In a previous study, dose-response relationships for raised cytoplasmic free calcium concentration and shape change were simultaneously measured. With the calcium ionophore ionomycin the threshold of free calcium concentration for shape change was 300 nM with a maximal response at 800 nM. With 1 mM external free

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calcium concentration the U44069 concentrations required to stimulate half-maximal shape change and an increase in free calcium concentration were 2 and 41 nM, respectively. Low levels of U44069 could evoke substantial shape change without any rise in free calcium concentration. In the absence of external calcium, U44069 was able to stimulate half-maximal shape change at 2 nM, and half-maximal elevation of free calcium concentration at 69 nM [1].

In vivo: Animal study showed that naive mice treated with either U-44069 at 25 or 100 μg/kg (iv), endothelin-1 (100 pmol, intranasally) or the ET B receptor agonist IRL-1620 (100 pmol, intranasally) had a marked increase in airway reactivity to carbachol [2].

Clinical trial: So far, no clinical study has been conducted.

References:
[1] Simpson, A. W.M.,Hallam, T.J., and Rink, T.J. Low concentrations of the stable prostaglandin endoperoxide U44069 stimulate shape change in quin2-loaded platelets without a measurable increase in [Ca2+]i. FEBS Letters 201, 301-305 (1986).
[2] Richter M, Cloutier S, Sirois P. Endothelin, PAF and thromboxane A2 in allergic pulmonary hyperreactivity in mice. Prostaglandins Leukot Essent Fatty Acids. 2007 May;76(5):299-308.