Product Data Sheet

Product Name: 16,16-Dimethyl Prostaglandin E2
Cat. No.: GC11133

Chemical Properties

Cas. No.	39746-25-3		
Chemical Name	(E)-7-((1R,2S,3R)-3-hydroxy-2-((R,E)-3-hydroxy-4,4-dimethyloct-1-en-1-yl)-5-oxocyclopentyl)hept-5-enoic acid		
SMILES	O[C@H](C1)[C@@H](/C=C/[C@H](C(C)(C)CCCC)O)[C@@H](C/C=C/CCCC(O)=O)C1=O		
Formula	$C_{22}H_{36}O_5$	M.Wt	380.52
Solubility	DMF: >100 mg/ml (from PGE2),DMSO: >100 mg/ml (from PGE2),Ethanol: >100 mg/ml (from PGE2),PBS pH 7.2: >5 mg/ml (from PGE2)	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			

Background

IC50: N/A

16,16-Dimethyl Prostaglandin E2 (dmPGE2) is the synthetic derivative ofprostaglandin E2. Since prostaglandin E has immunosuppressive effects and potentially could lessen the toxic effects of cyclosporine, prostaglandin E usage in the setting of allotransplantation has been suggested both clinically and experimentally.

In vitro: DmPGE2 was reported to cause an increase in runx11/cmyb1 HSCs, while HSCs were inhibited by indomethacin treatment in 90% of embryos. Moreover, dmPGE2 had minimal effects on the vasculature, while indomethacin altered the intersomitic vessels slightly. Imaged by confocal microscopy, red-labelled HSCs and endothelium embryos showed significantly increased HSCs following dmPGE2 exposure [1].

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In vivo: In a heterotopic model of rat allograft rejection, dmPGE2 could delay the rejection onset, but all animals developed severe rejection and died subsequently. Treatment of animals with low-dose CsA in combination with dmPGE2 led to a delay in the onset as well as a reduction in the intensity of allograft rejection. In addition, a statistical relationship between procoagulant activity levels and the time of onset of rejection was observed [1].

Clinical trial: N/A

References:
[1] North TE,Goessling W,Walkley CR,Lengerke C,Kopani KR,Lord AM,Weber GJ,Bowman TV,Jang IH,Grosser T,Fitzgerald GA,Daley GQ,Orkin SH,Zon LI. Prostaglandin E2 regulates vertebrate haematopoietic stem cell homeostasis. Nature.2007 Jun 21;447(7147):1007-11.
[2] Koh IH,Kim PC,Chung SW,Waddell T,Wong PY,Gorczynski R,Levy GA,Cohen Z. The effects of 16, 16 dimethyl prostaglandin E2 therapy alone and in combination with low-dose cyclosporine on rat small intestinal transplantation. Transplantation.1992 Oct;54(4):592-8.

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