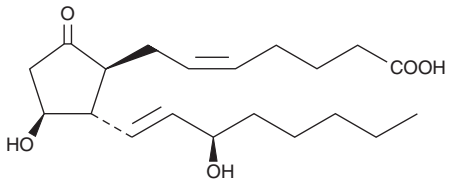
PRODUCT INFORMATION

ent-Prostaglandin E_2

Item No. 10008294

CAS No.:	65085-69-0
Formal Name:	9-oxo-11β,15R-dihydroxy-(8β,12α)-prosta-5Z,13E-dien-1-oic acid
Synonym:	*ent*-PGE_2
MF:	$C_{20}H_{32}O_5$
FW:	352.5
Purity:	≥98%
Supplied as:	A solution in methyl acetate
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

ent-PGE_2 is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of *ent*-PGE_2 in these solvents is approximately 50 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of *ent*-PGE_2 is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of *ent*-PGE_2 in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Enzymatically-derived PGE_2 is an optically pure compound whereas PGE_2 derived from the free radical-catalyzed peroxidation of arachidonate is a racemic mixture. *Ent*-PGE_2 is the opposite enantiomer of PGE_2. Significant amounts of racemic PGE_2 (*rac*-PGE_2) are generated *in vitro* and *in vivo* in settings of oxidative stress *via* the isoprostane pathway. A proposed mechanism for the formation of *rac*-PGE_2 involves the base catalyzed equilibration from 15-E_{2t}-isoprostane (8-*iso*-PGE_2), generated from the 15-H_{2t}-isoprostane endoperoxide.[1]

Reference

1. Gao, L., Zackert, W.E., Hasford, J.J., *et al.* Formation of prostaglandin E_2 and prostaglandin D_2 *via* the isoprostane pathway: A mechanism for the generation of bioactive prostaglandins independent of the cyclooxygenase. *J. Biol. Chem.* **278(31)**, 28479-28489 (2003).

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