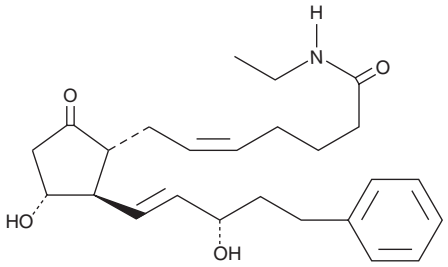
PRODUCT INFORMATION

17-phenyl trinor Prostaglandin E_2 ethyl amide

Item No. 13532

CAS Registry No.:	1219032-20-8
Formal Name:	N-ethyl-9-oxo-11α,15S-dihydroxy-17-phenyl-18,19,20-trinor-prosta-5Z,13E-dien-1-amide
Synonym:	17-phenyl trinor PGE_2 ethyl amide
MF:	$C_{25}H_{35}NO_4$
FW:	413.6
Purity:	≥98%
Supplied as:	A solution in ethanol
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

17-phenyl trinor Prostaglandin E_2 ethyl amide (17-phenyl trinor PGE_2 ethyl amide) is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of 17-phenyl trinor PGE_2 ethyl amide in these solvents is approximately 100 mg/ml.

17-phenyl trinor PGE_2 ethyl amide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of 17-phenyl trinor PGE_2 ethyl amide should be diluted with the aqueous buffer of choice. The solubility of 17-phenyl trinor PGE_2 ethyl amide in PBS (pH 7.2) is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

17-phenyl trinor PGE_2 ethyl amide is derived from 17-phenyl trinor PGE_2, a synthetic analog of PGE_2 that acts as an agonist of EP_1 and EP_3 receptors in mice (K_i = 14 and 3.7 nM, respectively) and EP_1, EP_3, and EP_4 in rats (K_i = 25, 4.3, and 54 nM, respectively).[1,2] 17-phenyl trinor PGE_2 causes contraction of guinea pig ileum at a concentration of 11 µM and is 4.4 times more potent than PGE_2 as an antifertility agent in hamsters.[1,2] Modification of the C-1 carboxyl group to an ethyl amide serves to increase lipid solubility, thereby improving uptake into tissues and further lowering the effective concentration. Ethyl amide groups are then removed by amidases, regenerating the active free acid.

References

1. Kiriyama, M., Ushikubi, F., Kobayashi, T., *et al.* Ligand binding specificities of the eight types and subtypes of the mouse prostanoid receptors expressed in Chinese hamster ovary cells. *Br. J. Pharmacol.* **122(2)**, 217-224 (1997).
2. Boie, Y., Stocco, R., Sawyer, N., *et al.* Molecular cloning and characterization of the four rat prostaglandin E_2 prostanoid receptor subtypes. *Eur. J. Pharmacol.* **340(2-3)**, 227-241 (1997).
3. Lawrence, R.A., Jones, R.L., and Wilson, N.H. Characterization of receptors involved in the direct and indirect actions of prostaglandins E and I on the guinea-pig ileum. *Br. J. Pharmacol.* **105(2)**, 271-278 (1992).
4. Miller, W.L., Weeks, J.R., Lauderdale, J.W., *et al.* Biological activities of 17-phenyl-18,19,20-trinorprostaglandins. *Prostaglandins* **9(1)**, 9-18 (1975).

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