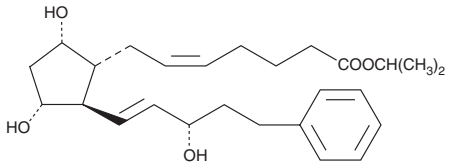
PRODUCT INFORMATION

17-phenyl trinor Prostaglandin F_{2a} isopropyl ester

Item No. 16824

CAS Registry No.: 130209-76-6
Formal Name: 9α,11α,15S-trihydroxy-17-phenyl-18,19,20-trinor-prosta-5Z,13E-dien-1-oic acid, isopropyl ester
Synonyms: Bimatoprost isopropyl ester, 17-phenyl trinor $PGF_{2α}$-iPr, 17-phenyl trinor $PGF_{2α}$ isopropyl ester
MF: $C_{26}H_{38}O_5$
FW: 430.6
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 F_{2a} isopropyl ester (17-phenyl trinor PGF_{2a} isopropyl ester) 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 PGF_{2a} isopropyl ester in these solvents is approximately 30 mg/ml.

17-phenyl trinor PGF_{2a} isopropyl ester is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of 17-phenyl trinor PGF_{2a} isopropyl ester should be diluted with the aqueous buffer of choice. 17-phenyl trinor PGF_{2a} isopropyl ester has a solubility of approximately 1 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

17-phenyl trinor $PGF_{2α}$ N-ethyl amide is an F-series PG analog which has been approved for use as an ocular hypotensive drug, sold under the Allergan trade name Bimatoprost.[1] The N-ethyl amide prostaglandin prodrugs are converted to the active free acid more slowly than the analogous prostaglandin ester prodrugs such as latanoprost.[2] This product is the isopropyl ester of the free acid prostaglandin which corresponds to Bimatoprost. The free acid, 17-phenyl trinor PGF_{2a}, is a potent FP receptor agonist.[3] In human and animal models of glaucoma, FP receptor agonist activity corresponds very closely with intraocular hypotensive activity. The 17-phenyl trinor PGF_{2a} isopropyl ester derivative was examined for IOP-lowering activity during the development of latanoprost.[4] At the dose of 3 µg/eye in the monkey, 17-phenyl trinor PGF_{2a} isopropyl ester was the most potent analog tested in reducing IOP, lowering the IOP 1.3 mm Hg below the level achieved by latanoprost. However, this derivative was also significantly more irritating to the eye than latanoprost.[4]

References

1. Woodward, D.F., Krauss, A.H.-P., Chen, J., *et al. Survey of Ophthalmology* **45**, S337-S345 (2001).
2. Maxey, K.M., Johnson, J., Camras, C.B., *et al. Survey of Ophthalmology* **47(4)**, 34-40 (2002).
3. Abramovitz, M., Adam, M., Boie, Y., *et al. Biochim. Biophys. Acta* **1483**, 285-293 (2000).
4. Resul, B., Stjernschantz, J., Selén, G., *et al. Survey of Ophthalmology* **41**, S47-S52 (1997).

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