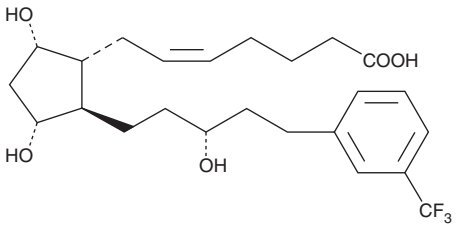
PRODUCT INFORMATION

17-trifluoromethylphenyl-13,14-dihydro trinor Prostaglandin $F_{2\alpha}$

Item No. 16895

CAS Registry No.: 294856-01-2
Formal Name: (5Z)-7-[(1R,2R,3R,5S)-3,5-dihydroxy-2-[(3R)-3-hydroxy-5-[3-(trifluoromethyl)phenyl]pentyl] cyclopentyl]-5-heptenoic acid
Synonym: 17-trifluoromethylphenyl-13,14-dihydro trinor $PGF_{2\alpha}$
MF: $C_{24}H_{33}O_5F_3$
FW: 458.5
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

17-trifluoromethylphenyl-13,14-dihydro trinor Prostaglandin $F_{2\alpha}$ (17-trifluoromethylphenyl-13,14-dihydro trinor $PGF_{2\alpha}$) 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 17-trifluoromethylphenyl-13,14-dihydro trinor $PGF_{2\alpha}$ in these solvents is approximately 50, 25, and 30 mg/ml, respectively.

17-trifluoromethylphenyl-13,14-dihydro trinor $PGF_{2\alpha}$ is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of 17-trifluoromethylphenyl-13,14-dihydro trinor $PGF_{2\alpha}$ should be diluted with the aqueous buffer of choice. The solubility of 17-trifluoromethylphenyl-13,14-dihydro trinor $PGF_{2\alpha}$ in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

A number of 17-phenyl trinor $PGF_{2\alpha}$ derivatives have been approved for the treatment of glaucoma.[1-3] Of these, the ones wherein the 13,14-double bond has been hydrogenated retain relatively good potency, but show a significantly reduced incidence of local irritant side effects.[4] 17-trifluoromethylphenyl-13,14-dihydro trinor $PGF_{2\alpha}$ bears an aromatic ring which is reminiscent of the trifluoromethyl-phenoxy ring of travoprost ((+)-fluprostenol isopropyl ester). As an ocular hypotensive agent, it would be expected that 17-trifluoromethylphenyl-13,14-dihydro trinor $PGF_{2\alpha}$ would act very much like the free acid of latanoprost.

References

1. Woodward, D.F., Krauss, A.H., Chen, J., *et al.* The pharmacology of bimatoprost (Lumigan™). *Surv. Ophthalmol.* **45(Suppl. 4)**, S337-S345 (2001).
2. Stjernschantz, J.W. From $PGF_{2\alpha}$-isopropyl ester to latanoprost: A review of the development of xalatan. The proper lecture. *Invest. Ophthalmol. Vis. Sci.* **42(6)**, 1134-1145 (2001).
3. Sorbera, L.A. and Castañer, J. Travoprost. *Drugs Future* **25(1)**, 41-45 (2000).
4. Resul, B., Stjernschantz, J., No, K., *et al.* Phenyl-substituted prostaglandins: Potent and selective antiglaucoma agents. *J. Med. Chem.* **36(2)**, 243-248 (1993).

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