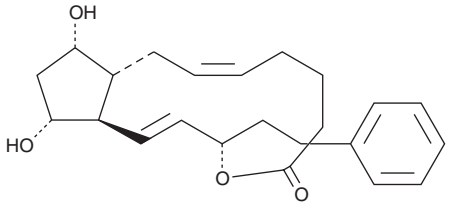
PRODUCT INFORMATION

17-phenyl trinor Prostaglandin $F_{2\alpha}$ 1,15-lactone

Item No. 13992

Formal Name: 9α,11α,15S-trihydroxy-17-phenyl-18,19,20-trinor-prosta-5Z,13E-dien-1-oic acid, 1,15-lactone
Synonyms: Bimatoprost free acid 1,15 lactone, 17-phenyl trinor $PGF_{2\alpha}$ 1,15-lactone
MF: $C_{23}H_{30}O_4$
FW: 370.5
Purity: ≥98%
Supplied as: A crystalline solid
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 $F_{2\alpha}$ 1,15-lactone (17-phenyl trinor $PGF_{2\alpha}$ 1,15-lactone) is supplied as a crystalline solid. A stock solution may be made by dissolving the 17-phenyl trinor $PGF_{2\alpha}$ 1,15-lactone in the solvent of choice, which should be purged with an inert gas. 17-phenyl trinor $PGF_{2\alpha}$ 1,15-lactone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 17-phenyl trinor $PGF_{2\alpha}$ 1,15-lactone in these solvents is approximately 16, 12.5, and 14 mg/ml, respectively.

17-phenyl trinor $PGF_{2\alpha}$ 1,15-lactone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 17-phenyl trinor $PGF_{2\alpha}$ 1,15-lactone should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 17-phenyl trinor $PGF_{2\alpha}$ 1,15-lactone has a solubility of approximately 0.5 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 $PGF_{2\alpha}$ (Item No. 16810) is a metabolically stable analog of $PGF_{2\alpha}$ (Item No. 16010) with potent FP receptor agonist activity and well known intraocular pressure-reducing effects.[1-3] 17-phenyl trinor $PF_{2\alpha}$ 1,15-lactone is the 1,15 lactone of 17-phenyl-trinor $PGF_{2\alpha}$. Selective F-series PG derivatives such as this compound have been developed for suitable pharmacologic activity and an improved side-effect profile over current glaucoma therapeutics.[4,5]

References

1. Balapure, A.K., Rexroad, C.E., Jr., Kawada, K., *et al.* Structural requirements for prostaglandin analog interaction with the ovine corpus luteum prostaglandin $F_{2\alpha}$ receptor. *Biochem. Pharmacol.* **38(14)**, 2375-2381 (1989).
2. Lake, S., Gullberg, H., Wahlqvist, J., *et al.* Cloning of the rat and human prostaglandin $F_{2\alpha}$ receptors and the expression of the rat prostaglandin $F_{2\alpha}$ receptor. *FEBS Lett.* **355(3)**, 317-325 (1994).
3. Woodward, D.F., Krauss, A.H., Chen, J., *et al.* The pharmacology of bimatoprost (Lumigan™). *Surv. Ophthalmol.* **45(Suppl 4)**, S337-S345 (2001).
4. 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).
5. Maxey, K.M. and Stanton, M.L. Internal 1,15-lactones of fluprostenol and related prostaglandin $F_{2\alpha}$ analogs and their use in the treatment of glaucoma and intraocular hypertension. *Cayman Chemical Company, Inc.* **US7,674,921B2** (2010).

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