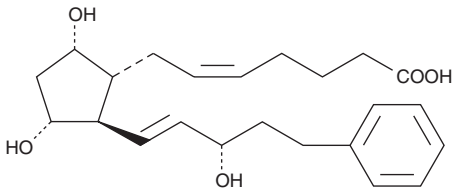
PRODUCT INFORMATION

17-phenyl trinor Prostaglandin $F_{2\alpha}$

Item No. 16810

CAS Registry No.: 38344-08-0
Formal Name: (5Z)-7-[(1R,2R,3R,5S)-3,5-dihydroxy-2-[(1E,3S)-3-hydroxy-5-phenyl-1-penten-1-yl]cyclopentyl]-5-heptenoic acid
Synonyms: Bimatoprost (free acid), 17-phenyl trinor $PGF_{2\alpha}$
MF: $C_{23}H_{32}O_5$
FW: 388.5
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

17-phenyl trinor Prostaglandin $F_{2\alpha}$ (17-phenyl trinor $PGF_{2\alpha}$) is supplied as a crystalline solid. A stock solution may be made by dissolving the 17-phenyl trinor $PGF_{2\alpha}$ in the solvent of choice, which should be purged with an inert gas. 17-phenyl trinor $PGF_{2\alpha}$ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 17-phenyl trinor $PGF_{2\alpha}$ in these solvents is approximately 100 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. Organic solvent-free aqueous solutions of 17-phenyl trinor $PGF_{2\alpha}$ can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 17-phenyl trinor $PGF_{2\alpha}$ in PBS (pH 7.2) is approximately 0.8 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

17-phenyl trinor $PGF_{2\alpha}$ is a metabolically stable analog of $PGF_{2\alpha}$ and is a potent agonist for the FP receptor. It binds to the FP receptor on ovine luteal cells with a relative potency of 756% compared to that of $PGF_{2\alpha}$.[1] At the rat recombinant FP receptor expressed in CHO cells bimatoprost inhibits $PGF_{2\alpha}$ binding with a K_i of 1.1 nM.[2] The isopropyl ester of 17-phenyl trinor $PGF_{2\alpha}$ ethyl amide is slightly better than $PGF_{2\alpha}$ isopropyl ester in reducing the intraocular pressure in the cat eye without any irritation.[3]

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. Stjernschantz, J. and Resul, B. Phenyl substituted prostaglandin analogs for glaucoma treatment. *Drugs Future* **17(8)**, 691-704 (1992).

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