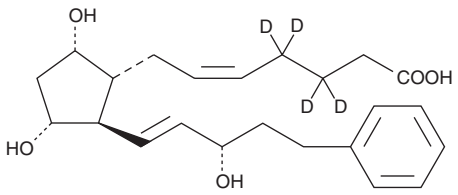
PRODUCT INFORMATION

17-phenyl trinor Prostaglandin $F_{2\alpha}$-d_4

Item No. 316810

CAS Registry No.: 58976-50-4
Formal Name: 9α,11α,15S-trihydroxy-17-phenyl-18,19,20-trinor-prosta-5Z,13E-dien-1-oic-3,3,4,4-d_4 acid
Synonyms: Bimatoprost (free acid)-d_4, 17-phenyl trinor $PGF_{2\alpha}$-d_4
MF: $C_{23}H_{28}D_4O_5$
FW: 392.5
Chemical Purity: ≥98% (17-phenyl trinor $PGF_{2\alpha}$)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
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-phenyl trinor Prostaglandin $F_{2\alpha}$-d_4 (17-phenyl trinor $PGF_{2\alpha}$-d_4) is intended for use as an internal standard for the quantification of 17-phenyl trinor $PGF_{2\alpha}$ by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

17-phenyl trinor $PGF_{2\alpha}$-d_4 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 (DMF) purged with an inert gas can be used. The solubility of 17-phenyl trinor $PGF_{2\alpha}$-d_4 in ethanol is approximately 30 mg/ml and approximately 25 mg/ml in DMSO and DMF.

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 17-phenyl trinor $PGF_{2\alpha}$ inhibits $PGF_{2\alpha}$ binding with a K_i of 1.1 nM.[2] The isopropyl ester of 17-phenyl trinor $PGF_{2\alpha}$-d_4 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).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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