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Product Information



Latanoprost-d₄ Item No. 10006556

Formal Name: 9 α ,11 α ,15R-trihydroxy-17-phenyl-18,19,20-trinor-prost-5Z-en-1-oic-3,3,4,4-d₄ acid, isopropyl ester

Synonym: 17-phenyl-13,14-dihydro trinor Prostaglandin F_{2 α} -d₄ isopropyl ester

MF: C₂₆H₃₆D₄O₅

FW: 436.6

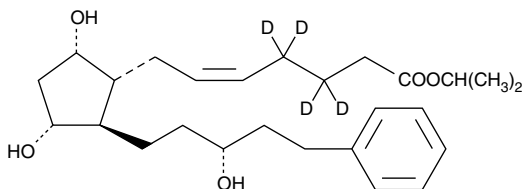
Chemical Purity: $\geq 98\%$

Deuterium

Incorporation: $\geq 99\%$ deuterated forms (d₁-d₄); $\leq 1\%$ d₀

Stability: ≥ 2 years at -20°C

Supplied as: A solution in methyl acetate



Laboratory Procedures

Latanoprost-d₄ contains four deuterium atoms at the 3, 3', 4, and 4' positions. It is intended for use as an internal standard for the quantification of latanoprost by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that latanoprost-d₄ be stored as supplied at -20°C. It will be stable for at least two years.

Latanoprost-d₄ 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 latanoprost-d₄ in ethanol and DMF is approximately 100 mg/ml and approximately 50 mg/ml in DMSO.

Latanoprost-d₄ is used as an internal standard for the quantification of latanoprost by stable isotope dilution 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).

Latanoprost is the isopropyl ester of 17-phenyl-13,14-dihydro prostaglandin F_{2 α} . It is a prodrug form of the free acid, which is a potent agonist of the FP receptor in the eye. Latanoprost reduces intraocular pressure in glaucoma patients with few side effects.¹⁻³ The EC₅₀ value of latanoprost (free acid) for FP receptors is 3.6 nM.⁴

References

1. Lindén, C., Nuija, E., and Alm, A. Effects on IOP restoration and blood-aqueous barrier after long term treatment with latanoprost in open angle glaucoma and ocular hypertension. *Br. J. Ophthalmol.* **81**, 370-372 (1997).
2. Camras, C.B., Alm, A., Watson, P., *et al.* Latanoprost, a prostaglandin analog, for glaucoma therapy. Efficacy and safety after 1 year of treatment in 198 patients. *Ophthalmology* **103**, 1916-1924 (1996).
3. Alm, A., Villumsen, J., Törnquist, P., *et al.* Intraocular pressure-reducing effect of PhXA41 in patients with increased eye pressure. A one-month study. *Ophthalmology* **100**, 1312-1317 (1993).
4. Stjernschantz, J. and Resul, B. Phenyl substituted prostaglandin analogs for glaucoma treatment. *Drugs of the Future* **17**, 691-704 (1992).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10006556

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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