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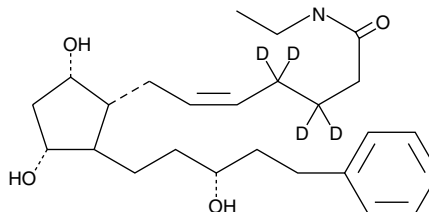
Product Information



Latanoprost ethyl amide-d₄

Item No. 316822

Formal Name: N-ethyl-9 α ,11 α ,15S-trihydroxy-17-phenyl-18,19,20-trinor-prost-5Z-en-1-amide-3,3,4,4-d₄
Synonym: Lat-NEt-d₄
MF: C₂₅H₃₄D₄NO₄
FW: 420.6
Chemical Purity: ≥98%
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol



Laboratory Procedures

Latanoprost ethyl amide-d₄ (Lat-NEt-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 Lat-NEt-d₄ be stored as supplied at -20°C. It will be stable for at least one year.

Lat-NEt-d₄ is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of Lat-NEt-d₄ in these solvents is approximately 50 and 30 mg/ml, respectively.

Lat-NEt-d₄ is used as an internal standard for the quantification of Lat-NEt 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).

Lat-NEt is an F-series prostaglandin (PG) analog in which the C-1 carboxyl group has been modified to an N-ethyl amide. PG esters have been shown to have ocular hypotensive activity.¹ PG N-ethyl amides were recently introduced as alternative PG ocular hypotensive prodrugs.² Although it has been claimed that PG ethyl amides are not converted to the free acids *in vivo*,² studies in our laboratories have shown that bovine and human corneal tissue converts the N-ethyl amides of various PGs to the free acids with a conversion rate of about 2.5 μg/g corneal tissue/hr.³ Lat-NEt would be expected to show the typical intraocular effects of Lat free acid, but with the much slower hydrolysis pharmacokinetics of the PG N-amides.

References

1. Bito, L.Z. Comparison of the ocular hypotensive efficacy of eicosanoids and related compounds. *Exp. Eye Res.* **38**, 181-184 (1984).
2. Woodward, D.F., Krauss, A.H.-P., Chen, J., *et al.* The pharmacology of Bimatoprost (Lumigan™). *Survey of Ophthalmology* **45**, S337-S345 (2001).
3. Maxey, K.M., Johnson, J., Camras, C.B., *et al.* The hydrolysis of bimatoprost in corneal tissue generates a potent prostanoid FP receptor agonist. *Survey of Ophthalmology* **47(4)**, 34-40 (2002).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/316822

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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