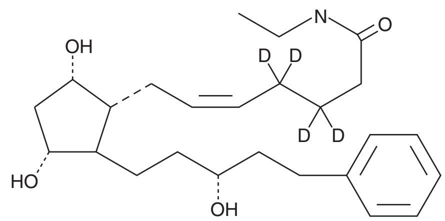
PRODUCT INFORMATION

Latanoprost ethyl amide-d_4
Item No. 316822



Formal Name: N-ethyl-9α,11α,15S-trihydroxy-17-phenyl-18,19,20-trinor-prost-5Z-en-1-amide-3,3,4,4-d_4
Synonyms: Lat-NEt-d_4
MF: $C_{25}H_{34}D_4NO_4$
FW: 420.6
Chemical Purity: ≥98% (Latanoprost ethyl amide)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years

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

Laboratory Procedures

Latanoprost ethyl amide-d_4 (Lat-NEt-d_4) is intended for use as an internal standard for the quantification of Lat-NEt 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).

Lat-NEt-d_4 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-d_4 in these solvents is approximately 50 and 30 mg/ml, respectively.

Lat-NEt-d_4 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of Lat-NEt-d_4 should be diluted with the aqueous buffer of choice. The solubility of Lat-NEt-d_4 in PBS (pH 7.2) is approximately 0.2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Lat-NEt-d_4 is intended for use as an internal standard for the quantification of Lat-NEt by GC- or LC-mass spectrometry. 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(2)**, 181-184 (1984).
2. Woodward, D.F., Krauss, A.H.-P., Chen, J., *et al.* The pharmacology of Bimatoprost (Lumigan™). *Surv. Ophthalmol.* **45 (Suppl. 4)**, 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. *Surv. Ophthalmol.* **47(4)**, 34-40 (2002).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM