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PRODUCT INFORMATION



Tafluprost (free acid)-d₄

Item No. 9002406

Formal Name: 9 α ,11 α -dihydroxy-15,15-difluoro-16-phenoxo-17,18,19,20-tetranor-prosta-5Z,13E-dien-1-oic-3',3',4',4'-d₄ acid

Synonym: AFP-172-d₄

MF: C₂₂H₂₄D₄F₂O₅

FW: 414.5

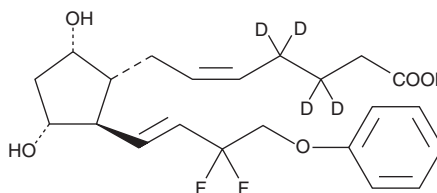
Chemical Purity: \geq 98% Tafluprost (free acid)

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

Stability: \geq 1 year at -20°C

Supplied as: A solution in methyl acetate

UV/Vis.: λ_{\max} : 218, 269, 276 nm



Laboratory Procedures

Tafluprost (free acid)-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 tafluprost (free acid) (Item No. 10005439) by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that tafluprost (free acid)-d₄ be stored as supplied at -20°C. It should be stable for at least one year.

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

Tafluprost (free acid)-d₄ is used as an internal standard for the quantification of tafluprost (free acid) 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).

Description

A number of 17-phenyl trinor prostaglandin F_{2 α} (Item No. 16810) derivatives have been approved for the treatment of glaucoma.¹⁻⁴ Of these, the ones wherein the 13,14-double bond has been hydrogenated retain relatively good potency, but show a significantly reduced incidence of local irritant side effects.⁵ Alternatively, it was recently reported that analogs incorporating a 15-deoxy-15,15-difluoro modification also had a favorable ophthalmic activity profile.⁶

References

1. Woodward, D.F., Krauss, A.H.-P., Chen, J., *et al. Surv. Ophthalmol.* **45**, S337-S345 (2001).
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3. Sorbera, L.A. and Castañer, J. *Drugs Future* **25**, 41-45 (2000).
4. Maxey, K.M., Johnson, J., Camras, C.B., *et al. Surv. Ophthalmol.* **47(4)**, 34-40 (2002).
5. Resul, B., Stjerschantz, J., No, K., *et al. J. Med. Chem.* **36**, 243-248 (1993).
6. Takagi, Y., Nakajima, T., Shimazaki, A., *et al. Exp. Eye Res.* **78**, 767-776 (2004).

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.

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