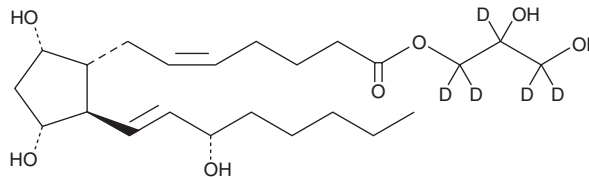


PRODUCT INFORMATION



Prostaglandin F_{2α}-1-glyceryl ester-d₅ Item No. 13883

Formal Name: 9α,11α,15S-trihydroxy-prosta-5Z,13E-dien-1-oic acid, 1-glyceryl ester-d₅
Synonym: PGF_{2α}-1-glyceryl ester-d₅
MF: C₂₃H₃₅D₅O₇
FW: 433.6
Chemical Purity: ≥98% (Prostaglandin F_{2α}-1-glyceryl ester)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀
Supplied as: A solution in acetonitrile
Storage: -20°C
Stability: ≥1 year



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

Laboratory Procedures

Prostaglandin F_{2α}-1-glyceryl ester-d₅ (PGF_{2α}-1-glyceryl ester-d₅) is intended for use as an internal standard for the quantification of PGF_{2α}-1-glyceryl ester 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).

PGF_{2α}-1-glyceryl ester-d₅ is supplied as a solution in acetonitrile. To change the solvent, simply evaporate the PGF_{2α}-1-glyceryl ester-d₅ 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 PGF_{2α}-1-glyceryl ester-d₅ in ethanol and DMF is approximately 30 mg/ml and approximately 20 mg/ml in DMSO.

Description

2-Arachidonoyl glycerol (2-AG) has been isolated from porcine brain, and has been characterized as the natural endocannabinoid ligand for the central cannabinoid receptor.^{1,2} Incubation of 2-AG with cyclooxygenase 2 and specific PGH₂ isomerases in cell cultures and isolated enzyme preparations results in PG glyceryl ester formation.³ The biosynthesis of PGH, PGD, PGE, PGF, and thromboxane A-2-glyceryl ester compounds have all been documented. The 2-glyceryl ester moiety equilibrates rapidly (within minutes) with the more stable 1-glyceryl ester, producing a 10:90 2:1-glyceryl ester mixture in typical aqueous media. While the stability and metabolism of PGF_{2α}-1-glyceryl ester has been investigated, little is known about its intrinsic biological activity.⁴

References

1. Sugiura, T., Kodaka, T., Kondo, S., *et al.* 2-Arachidonoylglycerol, a putative endogenous cannabinoid receptor ligand, induces rapid, transient elevation of intracellular free Ca²⁺ in neuroblastoma X glioma hybrid NG108-15 cells. *Biochem. Biophys. Res. Commun.* **229(1)**, 58-64 (1996).
2. Sugiura, T., Kodaka, T., Kondo, S., *et al.* Is the cannabinoid CB1 receptor a 2-arachidonoylglycerol receptor? Structural requirements for triggering a Ca²⁺ transient in NG108-15 cells. *J. Biochem.* **122(4)**, 890-895 (1997).
3. Kozak, K.R., Crews, B.C., Morrow, J.D., *et al.* Metabolism of the endocannabinoids, 2-arachidonoylglycerol and anandamide, into prostaglandin, thromboxane, and prostacyclin glycerol esters and ethanolamides. *J. Biol. Chem.* **277(47)**, 44877-44885 (2002).
4. Kozak, K.R., Crews, B.C., Ray, J.L., *et al.* Metabolism of prostaglandin glycerol esters and prostaglandin ethanolamides *in vitro* and *in vivo*. *J. Biol. Chem.* **276(40)**, 36993-36998 (2001).

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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