

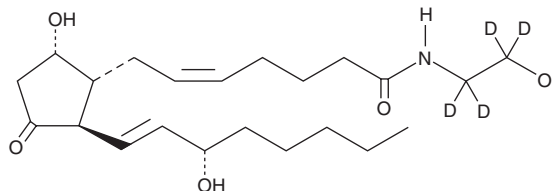
PRODUCT INFORMATION



Prostaglandin D2 Ethanolamide-d₄

Item No. 9001413

Formal Name: N-(2-hydroxyethyl)-11-oxo-9 α ,15S-dihydroxy-prosta-5Z,13E-dien-1-amide-d₄
Synonyms: PGD₂-EA-d₄, Prostamide D₂-d₄
MF: C₂₂H₃₃D₄NO₅
FW: 399.6
Chemical Purity: ≥95% (PGD₂-EA)
Deuterium
Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Supplied as: A 100 µg/ml solution in ethanol
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Prostaglandin D₂ ethanolamide-d₄ (PGD₂-EA-d₄) is intended for use as an internal standard for the quantification of PGD₂-EA 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).

PGD₂-EA-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 ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of PGD₂-EA-d₄ in ethanol is approximately 12.5 mg/ml and approximately 8.3 mg/ml in DMSO and DMF.

Description

PGD₂-EA is a bioactive lipid produced by the sequential metabolism of anandamide (arachidonoyl ethanolamide) by cyclooxygenase (COX) enzymes, in particular by COX-2, and PGD synthase.¹⁻³ The biosynthesis of PGD₂-EA from anandamide can also be increased when anandamide metabolism is diminished by deletion of fatty acid amide hydrolase.⁴ PGD₂-EA is inactive against recombinant prostanoid receptors, including the D prostanoid receptor.⁵ It increases the frequency of miniature inhibitory postsynaptic currents in primary cultured hippocampal neurons, an effect which is the opposite of that induced by anandamide.³ PGD₂-EA also induces apoptosis in colorectal carcinoma cell lines.²

References

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2. Patsos, H.A., Hicks, D.J., Dobson, R.R.H., *et al.* The endogenous cannabinoid, anandamide, induces cell death in colorectal carcinoma cells: A possible role for cyclooxygenase 2. *Gut* **54**(12), 1741-1750 (2005).
3. Sang, N., Zhang, J., and Chen, C. PGE₂ glycerol ester, a COX-2 oxidative metabolite of 2-arachidonoyl glycerol, modulates inhibitory synaptic transmission in mouse hippocampal neurons. *J. Physiol.* **572**, 735-745 (2006).
4. Weber, A., Ni, J., Ling, K.-H.J., *et al.* Formation of prostamides from anandamide in FAAH knockout mice analyzed by HPLC with tandem mass spectrometry. *J. Lipid Res.* **45**, 757-763 (2004).
5. Matias, I., Chen, J., De Petrocellis, L., *et al.* Prostaglandin ethanolamides (prostamides): *In vitro* pharmacology and metabolism. *J. Pharmacol. Exp. Ther.* **309**(2), 745-757 (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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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