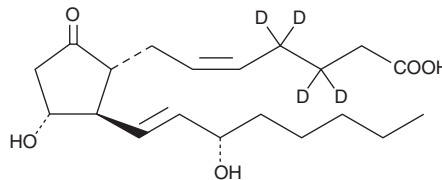


PRODUCT INFORMATION



Prostaglandin E₂-d₄ MaxSpec[®] Standard Item No. 10007273

CAS Registry No.:	34210-10-1
Formal Name:	9-oxo-11 α ,15S-dihydroxy-prosta-5Z,13E-dien-1-oic-3,3,4,4-d ₄ acid
Synonyms:	Dinoprostone-d ₄ , PGE ₂ -d ₄
MF:	C ₂₀ H ₂₈ D ₄ O ₅
FW:	356.5
Purity:	≥95%
Supplied as:	A solution in methyl acetate; in a deactivated glass ampule
Concentration:	10 µg/ml (nominal); see certificate of analysis for verified concentration
Storage:	-20°C
Stability:	≥3 years; <i>Stability testing is ongoing to ensure concentration accuracy. The certificate of analysis and product expiry date will be updated upon completion of testing.</i>
Special Conditions:	Store upright and unopened at -20°C. Warm to room temperature prior to opening. Light sensitive.



Description

Prostaglandin E₂-d₄ (PGE₂-d₄) is intended for use as an internal standard for the quantification of PGE₂ (Item No. 14010) by GC- or LC-MS. PGE₂ is one of the primary cyclooxygenase products of arachidonic acid (Item No. 90010) and one of the most widely investigated prostaglandins. Its activity influences inflammation, fertility and parturition, gastric mucosal integrity, and immune modulation.¹⁻⁴ The effects of PGE₂ are transduced by at least four distinct receptors designated EP₁, EP₂, EP₃, and EP₄.⁵ The affinity constants (K_d) of PGE₂ for these receptors range from 1-10 nM depending on the receptor subtype and tissue.

PGE₂-d₄ MaxSpec[®] standard is a quantitative grade standard of PGE₂-d₄ (Item No. 314010) that has been prepared specifically for mass spectrometry or any application where quantitative reproducibility is required. The solution has been prepared gravimetrically and is supplied in a deactivated glass ampule sealed under argon. The concentration was verified by comparison to an independently prepared calibration standard. The verified concentration is provided on the certificate of analysis. This PGE₂-d₄ MaxSpec[®] standard is guaranteed to meet identity, purity, stability, and concentration specifications and is provided with a batch-specific certificate of analysis. Ongoing stability testing is performed to ensure the concentration remains accurate throughout the shelf life of the product. **Note:** *The amount of solution added to the vial is in excess of the listed amount. Therefore, it is necessary to accurately measure volumes for preparation of calibration standards. Follow recommended storage and handling conditions to maintain product quality.*

References

1. Willis, A.L. and Cornelsen, M. Repeated injection of prostaglandin E₂ in rat paws induces chronic swelling and a marked decrease in pain threshold. *Prostaglandins* **3(3)**, 353-357 (1973).
2. Jackson, G.M., Sharp, H.T., and Varner, M.W. Cervical ripening before induction of labor: A randomized trial of prostaglandin E₂ gel versus low-dose oxytocin. *Am. J. Obstet. Gynecol.* **171(4)**, 1092-1096 (1994).
3. Robert, A., Schultz, J.R., Nezamis, J.E., et al. Gastric antisecretory and antiulcer properties of PGE₂, 15-methyl PGE₂, and 16,16-dimethyl PGE₂. Intravenous, oral and intrajejunal administration. *Gastroenterology* **70(3)**, 359-370 (1976).
4. Arvind, P., Papavassiliou, E.D., Tsioulis, G.J., et al. Prostaglandin E₂ down-regulates the expression of HLA-DR antigen in human colon adenocarcinoma cell lines. *Biochemistry* **34(16)**, 5604-5609 (1995).
5. Coleman, R.A., Smith, W.L., and Narumiya, S. International Union of Pharmacology classification of prostanoid receptors: Properties, distribution, and structure of the receptors and their subtypes. *Pharmacol. Rev.* **46(2)**, 205-229 (1994).

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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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