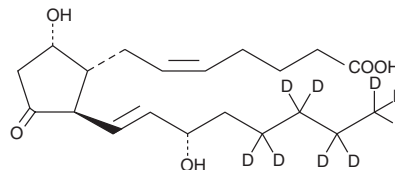


PRODUCT INFORMATION



Prostaglandin D₂-d₉ Item No. 10010123

Formal Name: 5-[(2,2-difluoro-1,3-benzodioxol-5-yl)methylene]-2,4-thiazolidinedione
Synonym: PGD₂-d₉
MF: C₂₀H₂₃D₉O₅
FW: 361.5
Chemical Purity: ≥95%
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₉); ≤1% d₀
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Prostaglandin D₂-d₉ (PGD₂-d₉) is used as an internal standard for the quantification of PGD₂ (Item No. 12010) 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-d₉ is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate 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 PGD₂-d₉ in these solvents is approximately 75, 50, and 100 mg/ml, respectively.

Description

PGD₂ is the major eicosanoid product of mast cells and is released in large quantities during allergic and asthmatic anaphylaxis.¹ Mastocytosis patients produce excessive amounts of PGD₂, which causes vasodilation, flushing, hypotension, and syncopal episodes.¹ PGD₂ is also produced in the brain via an alternative pathway involving a soluble, secreted PGD-synthase also known as b-trace.^{2,3} In the brain, PGD₂ produces normal physiological sleep and lowering of body temperature.^{2,3} Further pharmacological actions include inhibition of platelet aggregation and relaxation of vascular smooth muscle.⁴ PGD₂ inhibits human ovarian tumor cell proliferation with an IC₅₀ value of 6.8 μM.⁵

Reference

1. Roberts, L.J., II and Sweetman, B.J. Metabolic fate of endogenously synthesized prostaglandin D₂ in a human female with mastocytosis. *Prostaglandins* **30**, 383-400 (1985).
2. Hayaishi, O. Sleep-wake regulation by prostaglandins D₂ and E₂. *J. Biol. Chem.* **263**, 14593-14596 (1988).
3. Onoe, H., Ueno, R., Fujita, I., et al. Prostaglandin D₂, a cerebral sleep-inducing substance in monkeys. *Proc. Natl. Acad. Sci. USA* **85**, 4082-4086 (1988).
4. Giles, H. and Leff, P. The biology and pharmacology of PGD₂. *Prostaglandins* **35**, 277-300 (1988).
5. Kikuchi, Y., Kita, T., Hirata, J., et al. Preclinical studies of antitumor prostaglandins by using human ovarian cancer cells. *Cancer. Metast. Rev.* **13**, 309-315 (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

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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