

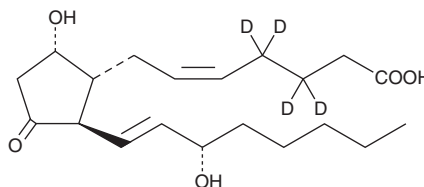
PRODUCT INFORMATION



Prostaglandin A₂-d₄

Item No. 310210

CAS Registry No.: 201608-18-6
Formal Name: 9-oxo-15S-hydroxy-prosta-5Z,10,13E-trien-1-oic-3,3,4,4-d₄ acid
Synonyms: Medullin-d₄, PGA₂-d₄
MF: C₂₀H₂₆D₄O₄
FW: 338.5
Chemical Purity: ≥98%
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Stability: ≥1 year at -20°C
Supplied as: A solution in methyl acetate
UV/Vis.: λ_{max}: 216 nm ε: 11,000



Laboratory Procedures

Prostaglandin A₂-d₄ (PGA₂-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 PGA₂ by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that PGA₂-d₄ be stored as supplied at -20°C. It should be stable for at least one year.

PGA₂-d₄ 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 PGA₂-d₄ in these solvents is approximately 50 mg/ml.

PGA₂-d₄ is used as an internal standard for the quantification of PGA₂ by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the weight indicated on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard PGA₂ by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Description

PGA₂ is a naturally occurring prostaglandin in gorgonian corals where it may function in self defense. It is generally not present in mammals. PGA₂ has low biological potency in most bioassays, but it does show some anti-viral/anti-tumor activity.¹ At a 25 μM concentration, PGA₂ blocks the cell cycle progression of NIH 3T3 cells at the G₁ and G₂/M phase.² It has also been shown to act as a vasodilator with natriuretic properties.³

References

1. Fukushima, M., Kato, T., Narumiya, S., *et al.* Prostaglandin A and J: Antitumor and antiviral prostaglandins. *Adv. Prostaglandin Thromboxane Leukotriene Res.* **19**, 415-418 (1989).
2. Hitomi, M., Shu, J., Strom, D., *et al.* Prostaglandin A₂ blocks the activation of G₁ phase cyclin-dependent kinase without altering mitogen-activated protein kinase stimulation. *J. Biol. Chem.* **271**, 9376-9383 (1996).
3. Frolich, J.C., Sweetman, B.J., Carr, K., *et al.* Assessment of the levels of PGA₂ in human plasma by gas chromatography-mass spectrometry. *Prostaglandins* **10**, 185-195 (1975).

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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