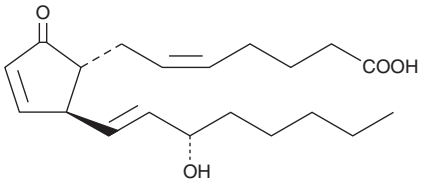
PRODUCT INFORMATION

Prostaglandin A_2 Quant-PAK

Item No. 10006840

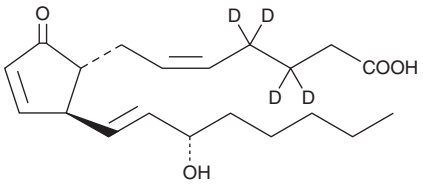
Prostaglandin A_2

CAS Registry No.: 13345-50-1
Formal Name: 9-oxo-15-hydroxy-prosta-5Z,10,13E-trien-1-oic acid
Synonyms: Medullin, PGA_2
MF: $C_{20}H_{30}O_4$
FW: 334.5
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in methyl acetate
UV/Vis.: λ_{max}: 216 nm



Prostaglandin A_2-d_4

CAS Registry No.: 201608-18-6
Formal Name: 9-oxo-15S-hydroxy-prosta-5Z,10,13E-trien-1-oic-3,3,4,4-d_4 acid
Synonyms: Medullin-d_4, PGA_2-d_4
MF: $C_{20}H_{26}D_4O_4$
FW: 338.5
Chemical Purity: ≥98%
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
Stability: ≥1 year at -20°C
Supplied as: A solution in methyl acetate
UV/Vis.: λ_{max}: 216 nm ε: 11,000



Description

This prostaglandin A_2 (PGA_2) Quant-PAK contains 50 µg of PGA_2-d_4 and 2-4 mg of PGA_2 (please see the vial for exact amount and concentration). For long term storage, we suggest that PGA_2 and PGA_2-d_4 be stored as supplied at -20°C. They should be stable for at least one year.

Both vials are supplied as solutions 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 PGA_2 and PGA_2-d_4 in these solvents is approximately 100, 50, and 75 mg/ml, respectively.

PGA_2-d_4 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 PGA_2 by GC- or LC-mass spectrometry. The accuracy of the sample weight in the PGA_2-$d_4$vial is between 5% over and 2% under the weight indicated on the vial. For better precision we have provided a precisely weighed unlabeled PGA_2, with the precise weight (2-4 mg) indicated on the vial. Using this vial the deuterated standard can be quantified by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

PGA_2 is a naturally occurring PG in gorgonian corals where it may function in self defense. It is generally not present in mammals. PGA_2 has low biological potency in most bioassays, but it does show some anti-viral/anti-tumor activity.[1] At a 25 µM concentration, PGA_2 blocks the cell cycle progression of NIH 3T3 cells at the G_1 and G_2/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. Adv. Prostaglandin Thromboxane Leukotriene Res.* **19**, 415-418 (1989).
2. Hitomi, M., Shu, J., Strom, D., *et al. J. Biol. Chem.* **271**, 9376-9383 (1996).
3. Frolich, J.C., Sweetman, B.J., Carr, K., *et al. Prostaglandins* **10**, 185-195 (1975).

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