Product Information

2,3-dinor-6-keto Prostaglandin $F_{1\alpha}$-d_9 (sodium salt)

Item No. 9000462

Formal Name: 6-oxo-9α,11α,15S-trihydroxy-2,3-dinor-prost-13E-en-1-oic 15,15,16,16,17,17,18,18,18-d_9 acid, sodium salt

Synonym: 2,3-dinor-6-keto $PGF_{1\alpha}$-d_9 (sodium salt)

MF: $C_{18}H_{20}D_9O_6 \bullet Na$

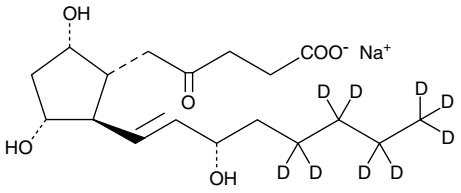
FW: 373.5

Chemical Purity: ≥95%

Deuterium Incorporation: ≥99% deuterated forms (d_1-d_9); ≤1% d_0

Stability: ≥1 year at -20°C

Supplied as: A lyophilized powder



Laboratory Procedures

2,3-dinor-6-keto Prostaglandin $F_{1\alpha}$-d_9 (sodium salt) (2,3-dinor-6-keto $PGF_{1\alpha}$-d_9 (sodium salt)) contains nine deuterium atoms at the 15, 15', 16, 16', 17, 17', 18, 18, and 18 positions. It is intended for use as an internal standard for the quantification of 2,3-dinor-6-keto $PGF_{1\alpha}$ by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that 2,3-dinor-6-keto $PGF_{1\alpha}$-d_9 (sodium salt) be stored as supplied at -20°C. It should be stable for at least one year.

2,3-dinor-6-keto $PGF_{1\alpha}$-d_9 (sodium salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the 2,3-dinot-6-keto $PGF_{1\alpha}$-d_9 (sodium salt). 2,3-dinot-6-keto $PGF_{1\alpha}$-d_9 (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of 2,3-dinor-6-keto $PGF_{1\alpha}$-d_9 (sodium salt) in ethanol is approximately 1 mg/ml and approximately 10 mg/ml in DMSO and DMF.

2,3-dinor-6-keto $PGF_{1\alpha}$-d_9 (sodium salt) is used as an internal standard for the quantification of 2,3-dinor-6-keto $PGF_{1\alpha}$ by stable isotope dilution 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).

2,3-dinor-6-keto $PGF_{1\alpha}$ is the β-oxidation product of 6-keto $PGF_{1\alpha}$ and the major urinary metabolite of PGI_2 in humans.[1,2] 2,3-dinor-6-keto $PGF_{1\alpha}$ makes up 23% of the recovered radioactivity in urine after administration of labeled 6-keto $PGF_{1\alpha}$ and 20.5% after administration of labeled PGI_2.[2] In healthy human subjects, the average excreted 2,3-dinor-6-keto $PGF_{1\alpha}$ level is ~100 pg/mg creatinine.[3]

References

1. Fitzgerald, G.A., Lawson, J., Blair, I.A., *et al.* Analysis of urinary metabolites of thromboxane and prostacyclin by negative-ion chemical-ionization gas chromatography/mass spectrometry. *Adv. Prostaglandin Thromboxane Leukot. Res.* **15**, 87-90 (1985).
2. Rosenkranz, B., Fischer, C., Reimann, I., *et al.* Identification of the major metabolite of prostacyclin and 6-ketoprostaglandin $F_{1\alpha}$ in man. *Biochim. Biophys. Acta* **619**, 207-213 (1980).
3. Wennmalm, Å., Benthin, G., Granström, E.F., *et al.* 2,3-Dinor metabolites of thromboxane A_2 and prostacyclin in urine from healthy human subjects: Diurnal variation and relation to 24h excretion. *Clin. Sci.* **83**, 461-465 (1992).

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Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com