PRODUCT INFORMATION

2,3-dinor-11β-Prostaglandin $F_{2\alpha}$-d_9

Item No. 9000603

Formal Name: (Z)-5-((1R,2R,3S,5S)-3,5-dihydroxy-2-((S,E)-3-hydroxyoct-1-en-1-yl-5,5,6,6,7,7,8,8,8-d_9)cyclopentyl)pent-3-enoic acid

Synonyms: BPG-d_9, 2,3-dinor-11-*epi* $PGF_{2\alpha}$-d_9, 2,3-dinor-11β-$PGF_{2\alpha}$-d_9

MF: $C_{18}H_{21}D_9O_5$

FW: 335.5

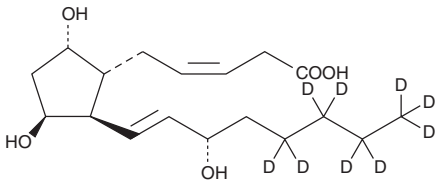
Chemical Purity: ≥95% (2,3-dinor-11β-Prostaglandin $F_{2\alpha}$)

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

Supplied as: A solution in ethanol

Storage: -20°C

Stability: ≥1 year



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

Laboratory Procedures

2,3-dinor-11β-Prostaglandin $F_{2\alpha}$-d_9 (2,3-dinor-11β-$PGF_{2\alpha}$-d_9) is intended for use as an internal standard for the quantification of 2,3-dinor-11β-$PGF_{2\alpha}$ (Item No. 16350) 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).

2,3-dinor-11β-$PGF_{2\alpha}$-d_9 is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of 2,3-dinor-11β-$PGF_{2\alpha}$-d_9 in these solvents is approximately 100 mg/ml.

Description

2,3-dinor-11β-$PGF_{2\alpha}$ is a metabolite of PGD_2 (Item No. 12010).[1,2] Urinary excretion of 2,3-dinor-11β-$PGF_{2\alpha}$ is increased in patients with mast cell activation disease (MCAD) and has been used as a marker of increased PGD_2 levels.[3] 2,3-dinor-11β-$PGF_{2\alpha}$ levels are also increased in the urine of patients with asthma and are positively correlated with impaired lung function.[4]

References

1. Liston, T.E. and Roberts, L.J., II Metabolic fate of radiolabeled prostaglandin D_2 in a normal human male volunteer. *J. Biol. Chem.* **260(24)**, 13172-13180 (1985).
2. Song, W.L., Wang, M., Ricciotti, E., *et al.* Tetranor PGDM, an abundant urinary metabolite reflects biosynthesis of prostaglandin D_2 in mice and humans. *J. Biol. Chem.* **283(2)**, 1179-1188 (2008).
3. Castells, M. and Butterfield, J. Mast cell activation syndrome and mastocytosis: Initial treatment options and long-term management. *J. Allergy Clin. Immunol. Pract.* **7(4)**, 1097-1106 (2019).
4. Kolmert, J., Gómez, C., Balgoma, D., *et al.* Urinary leukotriene E_4 and prostaglandin D_2 metabolites increase in adult and childhood severe asthma characterized by type 2 inflammation. A clinical observational study. *Am. J. Respir. Crit. Care Med.* **203(1)**, 37-53 (2021).

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