tetrnor-PGDM
Item No. 12850

CAS Registry No.: 70803-91-7
Formal Name: 9α-hydroxy-11,15-dioxo-13,14-dihydro-2,3,4,5-tetranor-prostan-1,20-dioic acid
Synonyms: tetranor-PGD Metabolite, tetranor-Prostaglandin D Metabolite
MF: C_{16}H_{24}O_{7}
FW: 328.4
Purity: ≥90%
Stability: ≥1 year at -80°C
Supplied as: A solution in methanol

Laboratory Procedures

For long term storage, we suggest that tetrnor-PGDM be stored as supplied at -80°C. It should be stable for at least one year. NOTE: tetrnor-PGDM is very unstable and should be placed on ice during laboratory use and returned to -80°C as quickly as possible. tetrnor-PGDM decomposes rapidly when concentrated or stored in the absence of solvent.

tetrnor-PGDM is supplied as a solution in methanol. To change the solvent, simply evaporate the methanol 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 tetrnor-PGDM in these solvents is approximately 50 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of tetrnor-PGDM is needed, it can be prepared by evaporating the methanol and directly dissolving the neat oil in aqueous buffers. The solubility of tetrnor-PGDM in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Prostaglandin D_{2} (PGD_{2}; Item No. 12010) is synthesized by hematopoietic-type PGD-synthase (H-PGDS) in mast cells and is released in large quantities during allergic and asthmatic anaphylaxis.\textsuperscript{1} PGD_{2} is also produced in the brain by lipocalin-PGDS also known as b-trace.\textsuperscript{2,3} In the brain, PGD_{2} produces normal physiological sleep and lowering of body temperature.\textsuperscript{2,3} Further pharmacological actions include inhibition of platelet aggregation and relaxation of vascular smooth muscle.\textsuperscript{4} tetrnor-PGDM is a major metabolite of PGD_{2} that is detectable in human and mouse urine.\textsuperscript{5} The levels of tetrnor-PGDM and 2,3-dinor-11β-PGF\textsubscript{20} (Item No. 16530), a related PGD\textsubscript{2} metabolite, in human urine were found to be 1.5 ± 0.3 and 0.6 ± ng/mg creatinine, respectively. tetrnor-PGDM was detected in murine urine at a level of 8.1 ± 1.3 ng/mg creatinine.\textsuperscript{5}

References