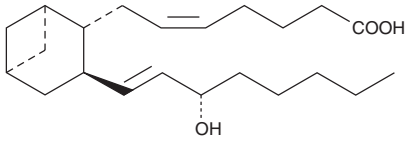
PRODUCT INFORMATION

Carbocyclic Thromboxane A_2

Item No. 19010

CAS Registry No.: 74034-56-3
Formal Name: (5Z)-7-[(2S,3R)-3-[(1E,3S)-3-hydroxy-1-octen-1-yl]bicyclo[3.1.1]hept-2-yl]-5-heptenoic acid
Synonyms: Carbocyclic TXA_2, CTA_2
MF: $C_{22}H_{36}O_3$
FW: 348.5
Purity: ≥98%
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

Carbocyclic thromboxane A_2 (CTA_2) is supplied as a solution in ethanol. To change the solvent, simply evaporate the CTA_2 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 CTA_2 in these solvents is approximately 25 and 50 mg/ml, respectively.

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 CTA_2 is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of CTA_2 in PBS (pH 7.2) is approximately 100 µg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

CTA_2 is a stable analog of TXA_2. CTA_2 is a potent coronary vasoconstrictor and is effective at concentrations as low as 1 nM in cat coronary arteries.[1] Unlike other vascular TP receptor agonists, CTA_2 is a potent inhibitor of prostanoid-induced platelet aggregation. It inhibits arachidonic acid-induced aggregation with an IC_{50} value of 4-5 µM. CTA_2 also exhibits selective and dose-dependent inhibition of TXB_2 synthesis in rabbit platelets at concentrations between 1 and 100 µM.[1]

Reference

1. Lefer, A.M., Smith, E.F., III, Araki, H., *et al.* Dissociation of vasoconstrictor and platelet aggregatory activities of thromboxane by carbocyclic thromboxane A_2, a stable analog of thromboxane A_2. *Proc. Natl. Acad. Sci. USA* **77(3)**, 1706-1710 (1980).

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