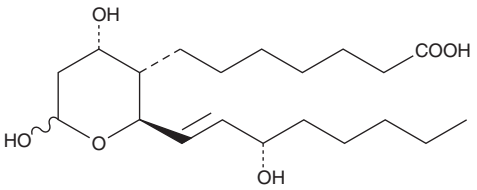
Product Information

Thromboxane B_1

Catalog No. 10006610

CAS No.:	64626-32-0
Formal Name:	9,11,15-trihydroxy-thrombox-13-en-1-oic acid
MF:	$C_{20}H_{36}O_6$
FW:	372.5
Purity:	≥98%
Stability:	≥2 years at -20°C
Supplied as:	A solution in methyl acetate



Laboratory Procedures

For long term storage, we suggest that thromboxane B_1 (TXB_1) be stored as supplied at -20°C. It will be stable for at least two years.

TXB_1 is supplied as a solution 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 (DMF) purged with an inert gas can be used. The solubility of TXB_1 in DMSO is 25 mg/ml and 50 mg/ml in ethanol and DMF.

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 TXB_1 is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of TXB_1 in PBS (pH 7.2) is at least 0.15 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Dihomo-γ-linolenic acid (DGLA) is one of the 20-carbon fatty acids that can be metabolized to prostaglandins and TXs by cyclooxygenases 1 and 2 (COX-1/COX-2).[1] The result of this metabolism in the human platelet yields TXB_1. TXB_1 is produced in small amounts when DGLA is added to washed suspensions of human platelets, while the major metabolism of this 1-series fatty acid is *via* 12-lipoxygenase.[2] However, when co-incubated with amounts of ethanol often found in intoxicated humans, the metabolism of DGLA shifts to an enhanced production of TXB_1.[2] Urinary TXB_1 or its metabolites may thus be a specific biomarker of prior ethanol abuse.

References

1. Levin, G., Duffin, K.L., Obukowicz, M.G., *et al.* Differential metabolism of dihomo-γ-linolenic acid and arachidonic acid by cyclooxygenase-1 and cyclooxygenase-2: Implications for cellular synthesis of prostaglandin E_1 and prostaglandin E_2. *Biochem. J.* **365**, 489-496 (2002).
2. Manku, M.S., Oka, M., and Horrobin, D.F. Differential regulation of the formation of prostaglandins and related substances from arachidonic acid and from dihomogammalinolenic acid. I. Effects of ethanol. *Prostaglandins Med.* **3(2)**, 119-128 (1979).

Related Products

Thromboxane B_2 - Cat. No. 19030 • 2,3-dinor Thromboxane B_2 - Cat. No. 19050 • 11-dehydro Thromboxane B_2 - Cat. No. 19500 • 2,3-dinor Thromboxane B_1 - Cat. No. 10006330

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