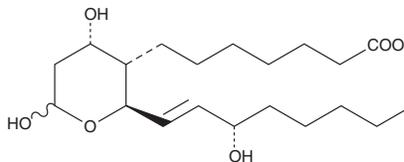


PRODUCT INFORMATION



Thromboxane B₁ Item No. 10006610

CAS Registry No.: 64626-32-0
Formal Name: 9,11,15-trihydroxy-thrombox-13-en-1-oic acid
Synonym: TXB₁
MF: C₂₀H₃₆O₆
FW: 372.5
Purity: ≥98%
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Thromboxane B₁ (TXB₁) 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 TXB₁ in ethanol and DMF is approximately 50 mg/ml and approximately 25 mg/ml in DMSO.

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 TXB₁ is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of TXB₁ in PBS (pH 7.2) is approximately 0.15 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Dihomo-γ-linolenic acid (DGLA) is one of the 20-carbon fatty acids that can be metabolized to prostaglandins and thromboxanes (TXs) by cyclooxygenases 1 and 2 (COX-1/COX-2).¹ The result of this metabolism in the human platelet yields TXB₁. TXB₁ 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 TXB₁.² Urinary TXB₁ 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 dihomogamma-linolenic acid and arachidonic acid by cyclo-oxygenase-1 and cyclo-oxygenase-2: Implications for cellular synthesis of prostaglandin E₁ and prostaglandin E₂. *Biochem. J.* **365**(Pt 2), 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).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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