

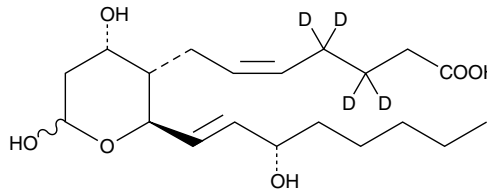
Product Information



Thromboxane B₂-d₄

Item No. 319030

CAS Registry No.: 1346112-79-5
Formal Name: 9 α ,11,15S-trihydroxy-thromba-5Z,13E-dien-1-oic-3,3,4,4-d₄ acid
MF: C₂₀H₃₀D₄O₆
FW: 374.5
Chemical Purity: \geq 98%
Deuterium Incorporation: \geq 99% deuterated forms (d₁-d₄); \leq 1% d₀
Stability: \geq 1 year at -20°C
Supplied as: A solution in methyl acetate



Laboratory Procedures

Thromboxane B₂-d₄ (TXB₂-d₄) contains four deuterium atoms at the 3, 3', 4, and 4' positions. It is intended for use as an internal standard for the quantification of TXB₂ by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that TXB₂-d₄ be stored as supplied at -20°C. It will be stable for at least one year.

TXB₂-d₄ 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 purged with an inert gas can be used. The solubility of TXB₂-d₄ in these solvents is approximately 25 mg/ml.

TXB₂-d₄ is used as an internal standard for the quantification of TXB₂ by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the weight indicated on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard TXB₂ by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

TXB₂ is a stable, biologically inert metabolite formed from the non-enzymatic hydrolysis of TXA₂, which has a half-life of about 30 seconds.¹ Urinary analysis of TXB₂ accurately reflects intrarenal TXA₂,² while measurement of 11-dehydro and 2,3-dinor TX metabolites gives the best estimate of systemic TXA₂ secretion.^{3,4}

References

1. Needleman, P., Moncada, S., Bunting, S., *et al.* Identification of an enzyme in platelet microsomes which generates thromboxane A₂ from prostaglandin endoperoxides. *Nature* **261**, 558-560 (1976).
2. Patrono, C., Ciabattini, G., Patrignani, P., *et al.* Evidence for a renal origin of urinary thromboxane B₂ in health and disease. *Adv. Prostaglandin Thromboxane Leukotriene Res.* **11**, 493-498 (1983).
3. Lawson, J.A., Patrono, C., Ciabattini, G., *et al.* Long-lived enzymatic metabolites of thromboxane B₂ in the human circulation. *Anal. Biochem.* **155**, 198-205 (1986).
4. Patrono, C., Ciabattini, G., Pugliese, F., *et al.* Estimated rate of thromboxane secretion into the circulation of normal humans. *J. Clin. Invest.* **77**, 590-594 (1986).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/319030

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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