

# PRODUCT INFORMATION



## Thromboxane B<sub>2</sub>-d<sub>4</sub>

Item No. 319030

**CAS Registry No.:** 1346112-79-5  
**Formal Name:** (5Z)-7-[(2R,3S,4S,6R)-tetrahydro-4,6-dihydroxy-2-[(1E,3S)-3-hydroxy-1-octen-1-yl]-2H-pyran-3-yl]-5-heptenoic-3,3,4,4-d<sub>4</sub> acid

**Synonym:** TXB<sub>2</sub>-d<sub>4</sub>  
**MF:** C<sub>20</sub>H<sub>30</sub>D<sub>4</sub>O<sub>6</sub>  
**FW:** 374.5

**Chemical Purity:** ≥98% (Thromboxane B<sub>2</sub>)

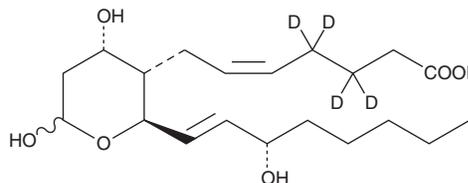
**Deuterium**

**Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>

**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 B<sub>2</sub>-d<sub>4</sub> (TXB<sub>2</sub>-d<sub>4</sub>) is intended for use as an internal standard for the quantification of TXB<sub>2</sub> (Item No. 19030) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

TXB<sub>2</sub>-d<sub>4</sub> 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 TXB<sub>2</sub>-d<sub>4</sub> in these solvents is approximately 100, 25, and 50 mg/ml, respectively.

### Description

TXB<sub>2</sub> is a non-enzymatically derived, stable, inactive metabolite of TXA<sub>2</sub>, which is highly unstable.<sup>1-3</sup> Serum levels of TXB<sub>2</sub> positively correlate with platelet COX-1 activation.<sup>4,5</sup> Urinary levels of TXB<sub>2</sub> reflect intrarenal TXA<sub>2</sub> synthesis, while its metabolites, 11-dehydro TXB<sub>2</sub> (Item No. 19500) and 2,3-dinor TXB<sub>2</sub> (Item No. 19510), reflect systemic TXA<sub>2</sub> secretion.<sup>2,6,7</sup>

### References

1. Needleman, P., Moncada, S., Bunting, S., et al. *Nature* **261(5561)**, 558-560 (1976).
2. Patrono, C., Ciabattoni, G., Pugliese, F., et al. *J. Clin. Invest.* **77(2)**, 590-594 (1986).
3. Uyama, O., Matsumoto, M., Fujisawa, A., et al. *Prostaglandins Med.* **7(3)**, 199-207 (1981).
4. Arantes, F.B.B., Menezes, F.R., Franci, A., et al. *Adv. Ther.* **37(1)**, 420-430 (2020).
5. Ferroni, P., Riondino, S., Vazzana, N., et al. *Thromb. Haemost.* **108(6)**, 1109-1123 (2012).
6. Patrono, C., Ciabattoni, G., Patrignani, P., et al. *Adv. Prostaglandin Thromboxane Leukot. Res.* **11**, 493-498 (1983).
7. Lawson, J.A., Patrono, C., Ciabattoni, G., et al. *Anal. Biochem.* **155(1)**, 198-205 (1986).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/31/2023

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM