

# PRODUCT INFORMATION



## Thromboxane B<sub>2</sub>-d<sub>9</sub>

Item No. 9002563

**Formal Name:** (Z)-7-((2R,3S,4S)-4,6-dihydroxy-2-((S,E)-3-hydroxyoct-1-en-1-yl-5,5,6,6,7,7,8,8,8-d<sub>9</sub>) tetrahydro-2H-pyran-3-yl)hept-5-enoic acid

**Synonym:** TXB<sub>2</sub>-d<sub>9</sub>

**MF:** C<sub>20</sub>H<sub>25</sub>D<sub>9</sub>O<sub>6</sub>

**FW:** 379.5

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

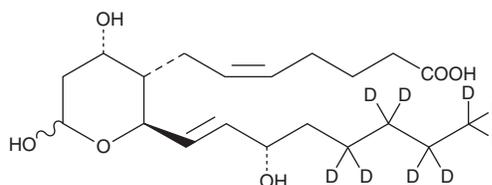
**Deuterium**

**Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>9</sub>); ≤1% d<sub>0</sub>

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:** ≥4 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>9</sub> (TXB<sub>2</sub>-d<sub>9</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>9</sub> is supplied as a crystalline solid. A stock solution may be made by dissolving the TXB<sub>2</sub>-d<sub>9</sub> in the solvent of choice, which should be purged with an inert gas. TXB<sub>2</sub>-d<sub>9</sub> is soluble in organic solvents such as ethanol, DMSO, methyl acetate, and dimethyl formamide. The solubility of TXB<sub>2</sub>-d<sub>9</sub> in these solvents is approximately 100, 25, 10, 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.* Identification of an enzyme in platelet microsomes which generates thromboxane A<sub>2</sub> from prostaglandin endoperoxides. *Nature* **261(5561)**, 558-560 (1976).
2. Patrono, C., Ciabattoni, G., Pugliese, F., *et al.* Estimated rate of thromboxane secretion into the circulation of normal humans. *J. Clin. Invest.* **77(2)**, 590-594 (1986).
3. Uyama, O., Matsumoto, M., Fujisawa, A., *et al.* Plasma concentrations of thromboxane B<sub>2</sub> in patients with hypertension or cerebrovascular disease. *Prostaglandins Med.* **7(3)**, 199-207 (1981).
4. Arantes, F.B.B., Menezes, F.R., Franci, A., *et al.* Influence of direct thrombin inhibitor and low molecular weight heparin on platelet function in patients with coronary artery disease: A prospective interventional trial. *Adv. Ther.* **37(1)**, 420-430 (2020).
5. Ferroni, P., Riondino, S., Vazzana, N., *et al.* Biomarkers of platelet activation in acute coronary syndromes. *Thromb. Haemost.* **108(6)**, 1109-1123 (2012).
6. Patrono, C., Ciabattoni, G., Patrignani, P., *et al.* Evidence for a renal origin of urinary thromboxane B<sub>2</sub> in health and disease. *Adv. Prostaglandin Thromboxane Leukot. Res.* **11**, 493-498 (1983).
7. Lawson, J.A., Patrono, C., Ciabattoni, G., *et al.* Long-lived enzymatic metabolites of thromboxane B<sub>2</sub> in the human circulation. *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, 05/01/2024

#### 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