

PRODUCT INFORMATION



Leukotriene B₄-d₄ MaxSpec[®] Standard

Item No. 29629

CAS Registry No.: 124629-74-9

Formal Name: 5S,12R-dihydroxy-6Z,8E,10E,14Z-eicosatetraenoic-6,7,14,15-d₄ acid

Synonym: LTB₄-d₄

MF: C₂₀H₂₈D₄O₄

FW: 340.5

Purity: ≥95%

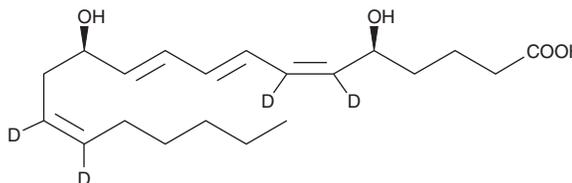
Supplied as: A solution in acetonitrile; in a deactivated glass ampule

Concentration: 10 µg/ml (nominal); see certificate of analysis for verified concentration

Storage: -20°C

Stability: ≥5 years; *Stability testing is ongoing to ensure concentration accuracy. The certificate of analysis and product expiry date will be updated upon completion of testing.*

Special Conditions: Store upright and unopened at -20°C. Warm to room temperature prior to opening. Light sensitive.



Description

Leukotriene B₄-d₄ (LTB₄-d₄) is intended for use as an internal standard for the quantification of leukotriene B₄ (LTB₄; Item No. 20110) by GC- or LC-MS. Leukotriene B₄ (LTB₄) is a dihydroxy fatty acid derived from arachidonic acid through the 5-lipoxygenase (5-LO) pathway.¹⁻³ It promotes a number of leukocyte functions including aggregation, stimulation of ion fluxes, enhancement of lysosomal enzyme release, superoxide anion production, chemotaxis, and chemokinesis. In subnanomolar ranges (3.9 x 10⁻¹⁰ M), LTB₄ induces chemotaxis and chemokinesis in human polymorphonuclear leukocytes.⁴ At higher concentrations, (1.0 x 10⁻⁷ M), LTB₄ leads to neutrophil aggregation and degranulation as well as superoxide anion production.^{4,5}

LTB₄-d₄ MaxSpec[®] standard is a quantitative grade standard of LTB₄-d₄ (Item No. 320110) that has been prepared specifically for mass spectrometry or any application where quantitative reproducibility is required. The solution has been prepared gravimetrically and is supplied in a deactivated glass ampule sealed under argon. The concentration was verified by comparison to an independently prepared calibration standard. The verified concentration is provided on the certificate of analysis. This LTB₄-d₄ MaxSpec[®] standard is guaranteed to meet identity, purity, stability, and concentration specifications and is provided with a batch-specific certificate of analysis. Ongoing stability testing is performed to ensure the concentration remains accurate throughout the shelf life of the product. **Note:** *The amount of solution added to the vial is in excess of the listed amount. Therefore, it is necessary to accurately measure volumes for preparation of calibration standards. Follow recommended storage and handling conditions to maintain product quality.*

References

1. Rådmark, O., Malmsten, C., Samuelsson, B., *et al.* Leukotriene A: Stereochemistry and enzymatic conversion to leukotriene B. *Biochem. Biophys. Res. Commun.* **92**(3), 954-961 (1980).
2. Ford-Hutchinson, A.W., Bray, M.A., Doig, M.V., *et al.* Leukotriene B, a potent chemokinetic and aggregating substance released from polymorphonuclear leukocytes. *Nature* **286**(5770), 264-265 (1980).
3. McGee, J., and Fitzpatrick, F. Enzymatic hydration of leukotriene A₄. Purification and characterization of a novel epoxide hydrolase from human erythrocytes. *J. Biol. Chem.* **260**(23), 12832-12837 (1985).
4. Ford-Hutchinson, A.W. Leukotriene B₄ in inflammation. *Crit. Rev. Immunol.* **10**(1), 1-12 (1990).
5. McMillan, R.M. and Foster, S.J. Leukotriene B₄ and inflammatory disease. *Agents Actions* **24**(1-2), 114-119 (1988).

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, 01/24/2023

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