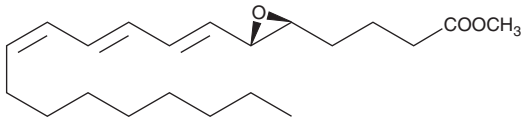
PRODUCT INFORMATION

Leukotriene A_3 methyl ester

Item No. 20009

CAS Registry No.: 83851-38-1
Formal Name: 5S-trans-5,6-oxido-7E,9E,11Z-eicosatrienoic acid, methyl ester
Synonym: LTA_3 methyl ester
MF: $C_{21}H_{34}O_3$
FW: 334.5
Purity: ≥97%
UV/Vis.: λ_{max}: 279 nm
Supplied as: A solution in hexane/1% triethylamine
Storage: -80°C
Stability: ≥1 year
Special Conditions: Light sensitive



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

Laboratory Procedures

LTA_3 methyl ester is supplied as a solution in hexane containing 1% triethylamine. The naturally occurring free acid of LTA_3 is too unstable for storage. The methyl ester is provided because of its increased stability. However, both the free acid and the methyl ester decompose rapidly under acidic conditions. Before performing any biological experiments, LTA_3 methyl ester should be hydrolyzed to LTA_3. Alkaline hydrolysis of LTA_3 methyl ester can be performed as follows:

Prepare a hydrolysis solution consisting of degassed acetone (8 ml) and 0.25 M NaOH (2 ml) and cool it to 0°C. Evaporate the hexane solution of LTA_3 methyl ester just to dryness under nitrogen and immediately add 4 ml of the hydrolysis solution per 1 mg of LTA_3 methyl ester (e.g., 400 µl per 100 µg vial). Allow the reaction to stand under an inert atmosphere of nitrogen or argon at 22°C for 40 minutes. The resulting basic solution of LTA_3 will be stable for about 60 minutes at room temperature or for 12 hours at 0°C. Dilutions of this LTA_3 stock solution can be made directly into aqueous buffers. Incorporation of albumin in the buffers will increase the stability of LTA_3 in aqueous media. Solutions not used within 12 hours of hydrolysis should be discarded.

Description

Leukotriene A_3 (LTA_3) methyl ester is an esterified form of LTA_3. It has been used in the synthesis of LTC_4 (Item No. 20210) derivatives with smooth muscle contractile activity.[1]

Reference

1. Okuyama, S., Miyamoto, S., Shimoji, K., *et al.* Structural analogs of leukotrienes C and D avd their contractile activities. *Chem. Pharm. Bull. (Tokyo)* **30(7)**, 2453-2462 (1982).

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