

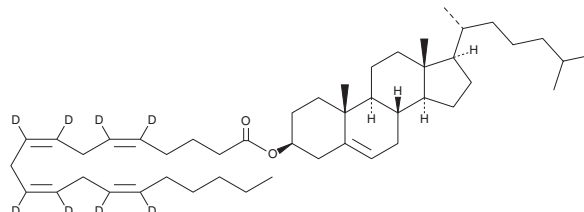
PRODUCT INFORMATION



Cholesteryl Arachidonate-d₈

Item No. 39085

Formal Name: (3β)-cholest-5-en-3-ol-d₈ 3-[(5Z,8Z,11Z,14Z)-5,8,11,14-eicosatetraenoate]
Synonyms: Arachidonic Acid cholesteryl ester-d₈, Cholesterol Arachidonate-d₈, Cholesterol 5Z,8Z,11Z,14Z-Eicosatetraenoic Acid ester-d₈, 20:4 Cholesteryl ester-d₈
MF: C₄₇H₆₈D₈O₂
FW: 681.2
Chemical Purity: ≥95% (Cholesteryl Arachidonate)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₈); ≤1% d₀
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

Cholesteryl arachidonate-d₈ is intended for use as an internal standard for the quantification of cholesteryl arachidonate (Item No. 22595) 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).

Cholesteryl arachidonate-d₈ 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 chloroform purged with an inert gas can be used. The solubility of cholesteryl arachidonate-d₈ in chloroform is approximately 10 mg/ml.

Description

Cholesteryl arachidonate is a cholesterol ester that is found in plasma and the adrenal gland.¹ It is a component of low-density lipoprotein (LDL) and oxidation of the arachidonate moiety contributes to macrophage activation and foam cell formation in atherosclerosis.² Cholesteryl arachidonate undergoes hydrolysis to release arachidonic acid during ACTH-stimulated prostaglandin synthesis in rat adrenocortical cells.³ Levels of cholesteryl arachidonate are increased in the bronchoalveolar lavage fluid (BALF) in pediatric cystic fibrosis patients compared to healthy controls as well as in placentas of women with chorioamnionitis.^{4,5}

References

1. Cheng, B., Al-Shammari, F.H., Ghader, I.A., *et al.* Fundamental studies of adrenal retinoid-X-receptor: Protein isoform, tissue expression, subcellular distribution, and ligand availability. *J. Steroid. Biochem. Mol. Biol.* **171**, 110-120 (2017).
2. Choi, S.-H., Yin, H., Ravandi, A., *et al.* Polyoxygenated cholesterol ester hydroperoxide activates TLR4 and SYK dependent signaling in macrophages. *PLoS One* **8**(12), e83145 (2013).
3. Vahouny, G.V., Chanderbhan, R., Hodges, V.A., *et al.* Cholesterol arachidonate as a prostaglandin precursor in adrenocortical cells. *Prostaglandins* **16**(2), 207-220 (1978).
4. Ma, D.C., Yoon, A.J., Faull, K.F., *et al.* Cholesteryl esters are elevated in the lipid fraction of bronchoalveolar lavage fluid collected from pediatric cystic fibrosis patients. *PLoS One* **10**(4), e0125326 (2015).
5. Delmis, J. Placental lipid contents in preterm labor complicated by chorioamnionitis. *J. Perinat. Med.* **17**(6), 417-422 (1989).

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.

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