

PRODUCT INFORMATION



Cholesteryl Linoleate-d₁₁

Item No. 37920

Formal Name: cholest-5-en-3 β -ol, 3-[(9Z,12Z)-9,12-octadecadienoate-14,14,15,15,16,16,17,17,18,18,18-d₁₁]

Synonyms: 18:2(9Z,12Z)-d₁₁ CE, C18:2(9Z,12Z)-d₁₁ Cholesteryl ester, CE(18:2)-d₁₁, Cholest-5-en-3 β -yl (9Z,12Z-octadecadienoate-d₁₁), Cholesteryl Linoleate-d₁₁, Linoleic Acid cholesterol ester-d₁₁

MF: C₄₅H₆₅D₁₁O₂

FW: 660.2

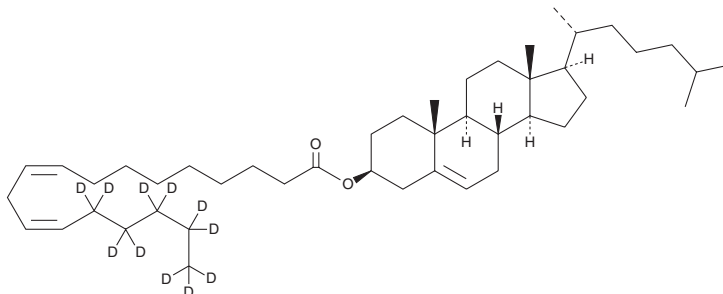
Chemical Purity: $\geq 95\%$ (Cholesteryl Linoleate)

Deuterium Incorporation: $\geq 99\%$ deuterated forms (d₁-d₁₁); $\leq 1\%$ d₀

Supplied as: A 100 $\mu\text{g/ml}$ 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 linoleate-d₁₁ is intended for use as an internal standard for the quantification of cholesteryl linoleate (Item No. 22597) 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).

Description

Cholesteryl linoleate is a pro-atherogenic cholesterol ester.^{1,2} It has been found in the plasma membrane of macrophages as a component of LDL, where it undergoes oxidation to form cholesteryl linoleate hydroperoxides (Item No. 48001).¹ Cholesteryl linoleate levels are increased in apoB-lipoproteins and positively correlated with hepatic cholesterol levels and the number of atherosclerotic lesions in transgenic mice overexpressing human ABCA1.² Lipoprotein levels of cholesteryl linoleate are increased and associated with lipid radical formation in patients with β -thalassemia.³

References

1. Takahashi, Y., Zhu, H., Xu, W., *et al.* Selective uptake and efflux of cholesteryl linoleate in LDL by macrophages expressing 12/15-lipoxygenase. *Biochem. Biophys. Res. Commun.* **338**(1), 128-135 (2005).
2. Joyce, C.W., Wagner, E.M., Basso, F., *et al.* ABCA1 overexpression in the liver of LDLr-KO mice leads to accumulation of pro-atherogenic lipoproteins and enhanced atherosclerosis. *J. Biol. Chem.* **281**(44), 33053-33065 (2006).
3. Lersaipheng, P., Paiboonsukwong, K., Sanvarinda, P., *et al.* Kinetics of lipid radical formation in lipoproteins from β -thalassemia: Implication of cholesteryl esters and α -tocopherol. *Biomed. Pharmacother.* **154**, 113624 (2022).

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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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