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PRODUCT INFORMATION



Cholesteryl Linoleate Hydroperoxides

Item No. 48001

Formal Name: (±)-9-hydroperoxy-10E,12Z-octadecadienoic acid, cholesteryl ester; (±)-13-hydroperoxy-9Z,11E-octadecadienoic acid, cholesteryl ester

MF: C₄₅H₇₆O₄

FW: 681.1

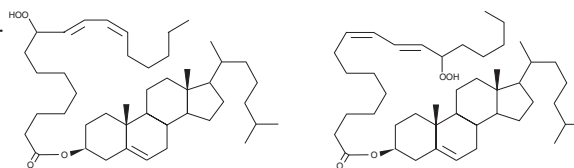
Purity: ≥98% hydroperoxide content

UV/Vis.: λ_{max}: 234 nm ε: 23,000

Supplied as: A solution in ethanol

Storage: -80°C

Stability: ≥6 months



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

Laboratory Procedures

Cholesteryl linoleate hydroperoxides are supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. A solvent such as dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of cholesteryl linoleate hydroperoxides in DMF is approximately 50 mg/ml.

Cholesteryl linoleate hydroperoxides are sparingly soluble in aqueous buffers (<20 µg/ml in PBS pH 7.2), therefore further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant since organic solvents may have physiological effects at low concentrations. Linoleate hydroperoxides are extremely unstable in aqueous solutions. We recommend that the cholesteryl linoleate hydroperoxides diluted in aqueous solution be used as soon as possible, preferably within 15 minutes.

Description

Cholesteryl linoleate hydroperoxides are derived from the autoxidation of cholesteryl linoleate and contain a mixture of racemic 9- and 13-HpODE cholesteryl esters. Oxidative modification of LDL is suggested to play an important role in atherosclerosis. (±)9- and (±)13-HODE cholesteryl esters were originally extracted from atherosclerotic lesions and shown to be produced by Cu²⁺-catalyzed oxidation of LDL.^{1,2} Later studies determined that 15-lipoxygenase, from rabbit reticulocytes and activated human monocytes, oxygenates cholesteryl linoleate to both 9- and 13-hydroperoxy linoleate cholesteryl esters.^{3,4} Cholesteryl ester hydroperoxides may be transferred from LDL to HDL, reduced to the corresponding hydroxides, and cleared via the liver.^{5,6}

References

1. Brooks, C.J.W., Harland, W.A., Steel, G., *et al.* *Biochim. Biophys. Acta* **202**, 563-566 (1970).
2. Lenz, M.L., Hughes, H., Mitchell, J.R., *et al.* *J. Lipid Res.* **31**, 1043-1050 (1990).
3. Belkner, J., Wiesner, R., Kühn, H., *et al.* *FEBS Lett.* **279**, 110-114 (1991).
4. Folcik, V.A. and Cathcart, M.K. *J. Lipid Res.* **35**, 1570-1582 (1994).
5. Sattler, W. and Stocker, R. *Biochem. J.* **294**, 771-778 (1993).
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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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