

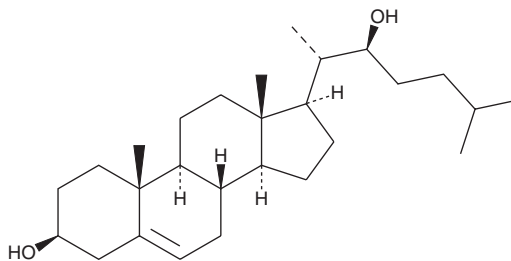
PRODUCT INFORMATION



22(S)-hydroxy Cholesterol

Item No. 21399

CAS Registry No.: 22348-64-7
Formal Name: cholest-5-ene-3 β ,22S-diol
Synonym: 22 β -hydroxy Cholesterol
MF: C₂₇H₄₆O₂
FW: 402.7
Purity: \geq 95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 2 years



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

Laboratory Procedures

22(S)-hydroxy Cholesterol is supplied as a crystalline solid. A stock solution may be made by dissolving the 22(S)-hydroxy cholesterol in the solvent of choice. 22(S)-hydroxy Cholesterol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of 22(S)-hydroxy cholesterol in these solvents is approximately 20, 0.1, and 2 mg/ml, respectively.

22(S)-hydroxy Cholesterol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 22(S)-hydroxy cholesterol should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 22(S)-hydroxy Cholesterol has a solubility of approximately 0.3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

22(S)-hydroxy Cholesterol is a synthetic oxysterol and a modulator of the liver X receptor (LXR).¹ It prevents monocyte chemoattractant protein 1 (MCP-1) expression induced by the LXR agonist GW 3965 (Item No. 10054) in primary hepatocytes and downregulates mRNA expression of the LXR target genes CD36, ACSL1, and SCD-1 in human myotubes.² It decreases triacylglycerol and diacylglycerol synthesis from labeled palmitate and acetate, respectively, in human myoblasts by 50% when used at a concentration of 10 μ M.¹ 22(S)-hydroxy Cholesterol also reduces fatty acid synthase (FASN) reporter activity through an LXR response element in the promoter region in COS-1 cells transfected with RXR α and LXR α and decreases the expression of MCP-1 and CCR2 in a mouse model of chronic ethanol consumption.^{1,2} Dietary supplementation of 22(S)-hydroxy cholesterol (30 mg/kg per day) leads to less body weight gain and lower liver triacylglycerol levels in rats when fed either a regular chow or high-fat diet as well as prevents an increase in plasma triacylglycerol levels resulting from a high-fat diet.³

References

1. Kase, E.T., Andersen, B., Nebb, H.I., *et al.* 22-Hydroxycholesterols regulate lipid metabolism differently than T0901317 in human myotubes. *Biochim. Biophys. Acta.* **1761(12)**, 1515-1522 (2006).
2. Na, T.-Y., Han, Y.-H., Ka, N.-L., *et al.* 22-S-Hydroxycholesterol protects against ethanol-induced liver injury by blocking the auto/paracrine activation of MCP-1 mediated by LXR α . *J. Pathol.* **235(5)**, 710-720 (2015).
3. Kase, E.T., Nikolić, N., Pettersen Hessvik, N., *et al.* Dietary supplementation with 22-S-hydroxycholesterol to rats reduces body weight gain and the accumulation of liver triacylglycerol. *Lipids* **47(5)**, 483-493 (2012).

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

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