

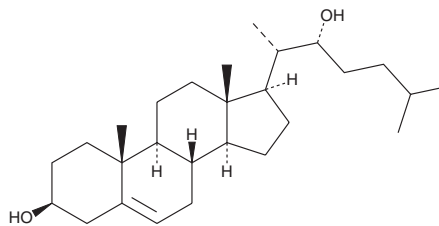
PRODUCT INFORMATION



22(R)-hydroxy Cholesterol

Item No. 89355

CAS Registry No.: 17954-98-2
Formal Name: cholest-5-ene-3 β ,22R-diol
Synonym: Narthesterol
MF: C₂₇H₄₆O₂
FW: 402.7
Purity: \geq 98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 1 year



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

Laboratory Procedures

22(R)-hydroxy Cholesterol is supplied as a crystalline solid. A stock solution may be made by dissolving the 22(R)-hydroxy cholesterol in the solvent of choice. 22(R)-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(R)-hydroxy cholesterol in these solvents is approximately 20, 0.1, and 2 mg/ml, respectively.

22(R)-hydroxy Cholesterol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 22(R)-hydroxy cholesterol should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 22(R)-hydroxy Cholesterol has a solubility of approximately 0.5 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

The liver X receptors (LXR α and LXR β) are nuclear hormone receptors whose native ligands are oxysterols.¹ LXRs regulate the oxysterol-induced expression of cholesterol 7 α -hydroxylase, the rate limiting enzyme of classic bile acid synthesis. 22(R)-hydroxy Cholesterol is an endogenous agonist for LXRs that activates LXR α with an EC₅₀ value of 325 nM.² 22(R)-hydroxy Cholesterol, acting through LXR heterodimerized with the retinoid X receptor, induces the expression of the ABCA1 reverse cholesterol transporter.³ This activity increases the efflux of cholesterol from enterocytes and thus inhibits the overall absorption of cholesterol. 22(R)-hydroxy Cholesterol can be used as a substrate to monitor cholesterol transport or as an endogenous positive control for testing LXR agonists which have potential as therapeutic agents for the treatment of atherosclerosis.

References

1. Repa, J.J., Turley, S.D., Lobaccaro, J.-M.A., *et al.* Regulation of absorption and ABC1-mediated efflux of cholesterol by RXR heterodimers. *Science* **289**(5484), 1524-1529 (2000).
2. Spencer, T.A., Dansu, L., Russel, J.S., *et al.* Pharmacophore analysis of the nuclear oxysterol receptor LXR α . *J. Med. Chem.* **44**(6), 886-897 (2001).
3. Costet, P., Luo, Y., Wang, N., *et al.* Sterol-dependent transactivation of the ABC1 promoter by the liver X receptor/retinoid X receptor. *J. Biol. Chem.* **275**(36), 28240-28245 (2000).

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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