

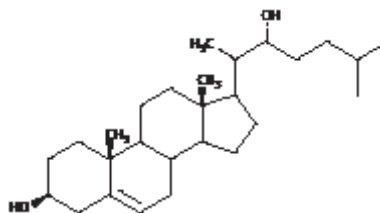
Product Information



22(R)-hydroxy Cholesterol

Catalog No. 89355

CAS Registry No.: 17954-98-2
Formal Name: cholest-5-ene-3 β ,22R-diol
Synonyms: 22(α)-hydroxy Cholesterol
MF: C₂₇H₄₆O₂
FW: 402.7
Purity: \geq 98%
Stability: \geq 1 year at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that 22(R)-hydroxy cholesterol (22(R)-OH-Ch) be stored as supplied at -20°C. It will be stable for at least one year.

22(R)-OH-Ch is supplied as a crystalline solid. A stock solution may be made by dissolving the 22(R)-OH-Ch in an organic solvent purged with an inert gas. 22(R)-OH-Ch is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 22(R)-OH-Ch in these solvents is approximately 20, 0.1, and 2 mg/ml, respectively. 22(R)-OH-Ch will be stable for at least six months in these solvents if stored at -20°C.

22(R)-OH-Ch is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 22(R)-OH-Ch should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 22(R)-OH-Ch has a solubility of approximately 500 μ g/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.

The liver X receptors (LXR α and LXR β) are nuclear hormone receptors whose native ligands are oxysterols.¹ 22(R)-OH-Ch is an endogenous agonist for the LXRs. The EC₅₀ value for ligand-dependent activation of LXR α by 22(R)-OH-Ch is approximately 325 nM.² The LXRs regulate the oxysterol-induced expression of cholesterol 7 α -hydroxylase, the rate limiting enzyme of classic bile acid synthesis. 22(R)-OH-Ch, acting through LXR and in concert with the retinoid X receptor (RXR), its heterodimerization partner, induces the expression of the ABCA1 reverse cholesterol transporter.³ This acts to increase the efflux of cholesterol from enterocytes and thus inhibit the overall absorption of cholesterol. 22(R)-OH-Ch can be used as an endogenous positive control for the testing of 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**, 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**, 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).

Related Products

TO-901317 - Cat. No. 71810 • JTT-705 - Cat. No. 89450

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