

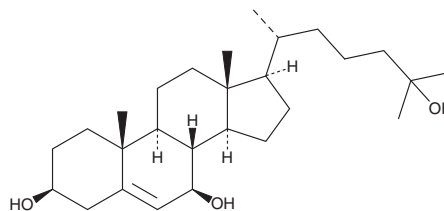
PRODUCT INFORMATION



7 β ,25-dihydroxy Cholesterol

Item No. 43245

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| CAS Registry No.: | 64907-21-7 |
| Formal Name: | cholest-5-ene-3 β ,7 β ,25-triol |
| Synonym: | 7 β ,25-DHC |
| MF: | C ₂₇ H ₄₆ O ₃ |
| FW: | 418.7 |
| Purity: | ≥98% |
| Supplied as: | A solid |
| Storage: | -20°C |
| Stability: | ≥4 years |



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

Description

7 β ,25-dihydroxy Cholesterol is an active metabolite of cholesterol (Item Nos. 9003100 | 39088 | 39448).¹ It is formed from cholesterol via 7-keto,25-hydroxy cholesterol (Item No. 25973) or 7 β -hydroxy cholesterol (Item No. 20099) intermediates by 11 β -hydroxysteroid dehydrogenase (11 β -HSD) or cholesterol 25-hydroxylase (CH25H), respectively. 7 β ,25-dihydroxy Cholesterol activates Epstein-Barr virus-induced G protein-coupled receptor 2 (EBI2), also known as GPR183, in a GTP γ S assay (EC₅₀ = 221 nM) but does not bind to EBI2 in CHO cell membranes expressing the human receptor in a radioligand binding assay (IC₅₀ = 2,632 nM).² Unlike 7 α ,25-dihydroxy cholesterol (Item No. 11032), it does not induce migration of isolated mouse splenocytes when used at concentrations up to 100 nM.³ 7 β ,25-dihydroxy Cholesterol acts as a cellular chaperone that corrects the localization defect of Niemann-Pick disease type C intracellular cholesterol transporter 1 containing an isoleucine-to-threonine substitution at position 1061 (NPC1^{I1061T}) in HEK293 cells expressing the mutant transporter (EC₅₀ = 1.9 μ M).⁴

References

1. Beck, K.R., Kanagaratnam, S., Kratschmar, D.V., *et al.* Enzymatic interconversion of the oxysterols 7 β ,25-dihydroxycholesterol and 7-keto,25-hydroxycholesterol by 11 β -hydroxysteroid dehydrogenase type 1 and 2. *J. Steroid Biochem. Mol. Biol.* **190**, 19-28 (2019).
2. Hannedouche, S., Zhang, J., Yi, T., *et al.* Oxysterols direct immune cell migration via EBI2. *Nature* **475(7357)**, 524-527 (2011).
3. Liu, C., Yang, X.V., Wu, J., *et al.* Oxysterols direct B-cell migration through EB12. *Nature* **475(7357)**, 519-523 (2011).
4. Ohgane, K., Karaki, F., Noguchi-Yachide, T., *et al.* Structure-activity relationships of oxysterol-derived pharmacological chaperones for Niemann-Pick type C1 protein. *Bioorg. Med. Chem. Lett.* **24(15)**, 3480-3485 (2014).

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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