

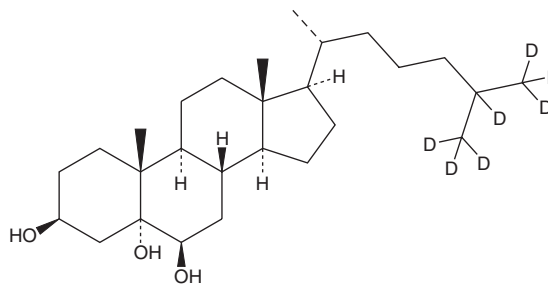
PRODUCT INFORMATION



5 α ,6 β -Dihydroxycholestanol-d₇

Item No. 25968

CAS Registry No.:	127684-07-5
Formal Name:	cholestane-25,26,26,26,27,27,27-d ₇ -3 β ,5 α ,6 β -triol
Synonyms:	Cholestanetriol-d ₇ , 5 α ,6 β -di-OHC-d ₇
MF:	C ₂₇ H ₄₁ D ₇ O ₃
FW:	427.7
Chemical Purity:	≥98% (5 α ,6 β -Dihydroxycholestanol)
Deuterium Incorporation:	≥99% deuterated forms (d ₁ -d ₇); ≤1% d ₀
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.

Laboratory Procedures

5 α ,6 β -Dihydroxycholestanol-d₇ is intended for use as an internal standard for the quantification of 5 α ,6 β -dihydroxycholestanol (Item No. 25538) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

5 α ,6 β -Dihydroxycholestanol-d₇ is supplied as a solid. A stock solution may be made by dissolving the 5 α ,6 β -dihydroxycholestanol-d₇ in the solvent of choice, which should be purged with an inert gas. 5 α ,6 β -Dihydroxycholestanol-d₇ is slightly soluble in methanol.

Description

5 α ,6 β -Dihydroxycholestanol is an oxysterol metabolite of cholesterol formed from conversion of cholesterol epoxides by 5,6-epoxysterol hydrolase.^{1,2} It inhibits NMDA-mediated calcium influx in HEK293 cells expressing NR1/NR2B NMDA receptors in a concentration-dependent manner. It also binds to voltage-gated sodium (Na_v) channels and decreases action potentials in hippocampal neurons *in vitro* when used at a concentration of 10 μ M.² It increases survival of spinal cord motoneurons, cortical neurons, and cerebellar granule neurons *in vitro* when used at concentrations ranging from 5 to 15 μ M.³ 5 α ,6 β -Dihydroxycholestanol is neuroprotective in a rat model of cerebral ischemia when administered at a dose of 12 mg/kg and increases latency to seizure onset and reduces severity of seizures induced by pentylenetetrazole (PTZ; Item No. 18682) in rats. 5 α ,6 β -Dihydroxycholestanol has been used as a replacement for cholesterol in the study of cholesterol binding proteins.⁴

References

1. Aringer, L. and Eneroth, P. Formation and metabolism *in vitro* of 5,6-epoxides of cholesterol and β -sitosterol. *J. Lipid Res.* **15**(4), 389-398 (1974).
2. Tang, L., Yan, M., Leng, T., *et al.* Cholestane-3 β , 5 α , 6 β -triol suppresses neuronal hyperexcitability via binding to voltage-gated sodium channels. *Biochem. Biophys. Res. Commun.* **496**(1), 95-100 (2018).
3. Hu, H., Zhou, Y., Leng, T., *et al.* The major cholesterol metabolite cholestane-3 β ,5 α ,6 β -triol functions as an endogenous neuroprotectant. *J. Neurosci.* **34**(34), 11426-11438 (2014).
4. Sheng, R., Kim, H., Lee, H., *et al.* Cholesterol selectively activates canonical Wnt signalling over non-canonical Wnt signalling. *Nat. Commun.* **5**:4393 (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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