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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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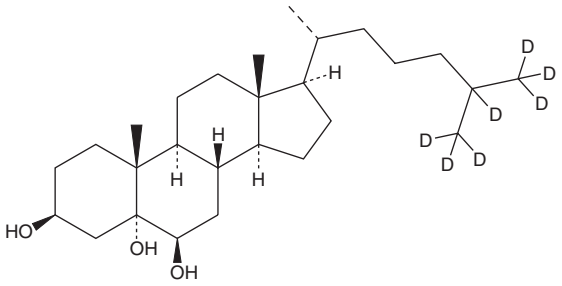
PRODUCT INFORMATION

5α,6β-Dihydroxycholestanol-d_7

Item No. 25968

CAS Registry No.:	127684-07-5
Formal Name:	cholestane-25,26,26,26,27,27,27-d_7-3β,5α,6β-triol
Synonyms:	Cholestanetriol-d_7, 5α,6β-di-OHC-d_7
MF:	$C_{27}H_{41}D_7O_3$
FW:	427.7
Chemical Purity:	≥98% (5α,6β-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

5α,6β-Dihydroxycholestanol-d_7 is intended for use as an internal standard for the quantification of 5α,6β-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).

5α,6β-Dihydroxycholestanol-d_7 is supplied as a solid. A stock solution may be made by dissolving the 5α,6β-dihydroxycholestanol-d_7 in the solvent of choice, which should be purged with an inert gas. 5α,6β-Dihydroxycholestanol-d_7 is slightly soluble in methanol.

Description

5α,6β-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 µM.[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 µM.[3] 5α,6β-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. 5α,6β-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-3β, 5α, 6β-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-3β,5α,6β-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).

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