Product Data Sheet

Product Name: 5α,6β-Dihydroxycholestanol
Cat. No.: GC18176

Chemical Properties

Cas. No.	1253-84-5		
Chemical Name	cholestane-3β,5α,6β-triol		
SMILES	C[C@H](CCCC(C)C)[C@@]1([H])CC[C@@]2([H])[C@]3([H])C[C@@H](O)[C@@]4(O)C[C@@H](O)CC[C@]4(C)[C@@]3([H])CC[C@@]21C		
Formula	$C_{27}H_{48}O_3$	M.Wt	420.7
Solubility	DMF: 2 mg/ml,DMSO: 0.1 mg/ml,Ethanol: 20 mg/ml,Ethanol:PBS (pH 7.2)(1:2): 0.3 mg/ml	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	5α,6β-Dihydroxycholestanol		

Background

5α,6β-Dihydroxycholestanol is an oxysterol metabolite of cholesterol formed from conversion of cholesterol epoxides by 5,6-epoxysterol hydrolase. 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 (Nav) channels and decreases action potentials in hippocampal neurons in vitro when used at a concentration of 10 uM. It increases survival of spinal cord motoneurons, cortical neurons, and cerebellar granule neurons in vitro when used at concentrations ranging from 5 to 15 uM. 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 in rats. 5α,6β-Dihydroxycholestanol has been used as a replacement for cholesterol in the study

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

of cholesterol binding proteins.

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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