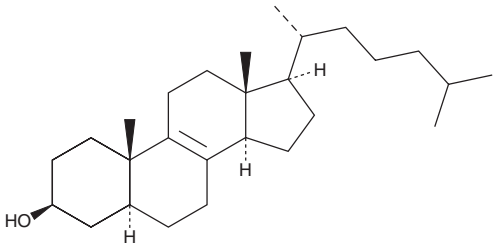
PRODUCT INFORMATION

Zymostenol

Item No. 26209

CAS Registry No.: 566-97-2
Formal Name: (5α)-cholest-8-en-3β-ol
Synonym: Δ^8-Cholesterol
MF: $C_{27}H_{46}O$
FW: 386.7
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Zymostenol is supplied as a crystalline solid. A stock solution may be made by dissolving the zymostenol in the solvent of choice. Zymostenol is soluble in organic solvents such as ethanol and dimethyl formamide, which should be purged with an inert gas. The solubility of zymostenol in these solvents is approximately 2 and 3 mg/ml, respectively.

Description

Zymostenol is a late-stage precursor in the biosynthesis of cholesterol.[1] It is an agonist of retinoic acid receptor-related orphan receptor γ (RORγ) with an EC_{50} value of 1 µM in a RORγ coactivator recruitment assay in the presence of ursolic acid (Item No. 10072). It increases the number of myelin basic protein-positive oligodendrocytes generated from oligodendrocyte precursor cells *in vitro*.[2] Zymostenol accumulates in cells following administration of microsomal antiestrogen-binding site (AEBS) ligands, such as tamoxifen (Item No. 13258), which are associated with cell differentiation and a protective type of autophagy.[3,4] When used alone at a concentration of 20 µM, zymostenol halts the cell cycle at the G_0/G_1 phase and increases the levels of free sterols, esterified sterols, and triacylglycerols in MCF-7 cells.[3]

References

1. Hu, X., Wang, Y., Hao, L.-Y., *et al.* Sterol metabolism controls T_H17 differentiation by generating endogenous RORγ agonists. *Nat. Chem. Biol.* **11(9)**, 141-147 (2015).
2. Hubler, Z., Allimuthu, D., Bederman, I., *et al.* Accumulation of 8,9-unsaturated sterols drives oligodendrocyte formation and remyelination. *Nature* **560(7718)**, 372-376 (2018).
3. Payré, B., de Medina, P., Boubekeur, N., *et al.* Microsomal antiestrogen-binding site ligands induce growth control and differentiation of human breast cancer cells through the modulation of cholesterol metabolism. *Mol. Cancer Ther.* **7(12)**, 3707-3718 (2008).
4. Poirot, M. and Silvente-Poirot, S. The tumor-suppressor cholesterol metabolite, dendrogenin A, is a new class of LXR modulator activating lethal autophagy in cancers. *Biochem. Pharmacol.* **153**, 75-81 (2018).

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