

Product Information

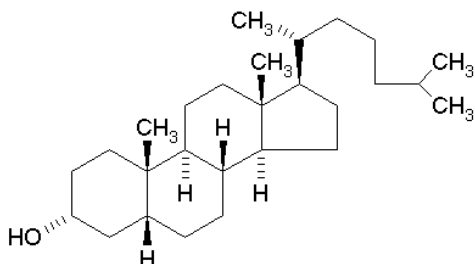
5 β -Cholestan-3 α -ol

Product number **C 2882**
Store at Room Temperature

CAS RN: 516-92-7

Synonym: Epicoprostanol

Product description



Molecular formula: C₂₇H₄₈O
Molecular weight: 388.67

[α]_D (C = 1 in chloroform): 29.5-32.5°
Melting point: 108-112 °C

5 β -Cholestan-3 α -ol (epicoprostanol) belongs to the family of sterols with saturated side chains that includes cholesterol, coprostanol, epicoprostanol, cholestanol, and 7-dehydrosterol.

Fractionation of human feces by TLC and gas-liquid chromatography revealed that the majority of endogenous neutral steroids are cholesterol, coprostanol, coprostanone and cholestanol and that epicoprostanol is present at trace amounts.¹ Therefore epicoprostanol can be used for investigation of faecal pollution by sterol profiling.²

Adipocere formation is well known as a later postmortem change. The epicoprostanol, which was found as a cholesterol-related peak with a molecular ion of 388 in adipocere, suggests the occurrence of not only oxidation but also reduction during the formation of adipocere.³ Epicoprostanol (100 mg/kg dose) was found to significantly induce hypoglycemia and

increased insulin levels in rat blood plasma by 88% and 66% and lowered blood glucose levels in diabetic rats.⁴ Unlike cholesterol, which caused sequential stimulation of phospholipid, RNA and protein synthesis in sterol auxotroph *Mycoplasma capricolum*, the epicoprostanol was found to inhibit cell growth.⁵

The loss of cholesterol and desmosterol is an essential step in the capacitation (maturation) of human sperm. Preventing this loss inhibits capacitation. When epicoprostanol was added to the medium to replace sperm cholesterol and desmosterol, it promoted rather than inhibited capacitation.⁶

Precautions and Disclaimer.

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation instructions

The product is soluble in chloroform at 50 mg/ml yielding a clear colorless to faint yellow solution.

Storage and Stability

Store desiccated at room temperature. Under these conditions the product is stable for 3 years.

References

1. McNamara, D.J., et al., Thin-layer and gas-liquid chromatographic identification of neutral steroids in human and rat feces., *J Lipid Res.* **22**, 474-84 (1981).
2. Suprihatin, I., et al., Determination of faecal pollutants in Torrens and Patawalonga catchment waters in South Australia using faecal sterols., *Water Sci Technol.* **47**, 283-9 (2003).
3. Adachi, J., et al., Epicoprostanol found in adipocere from five human autopsies., *Lipids*, **32**, 1155-60 (1997).
4. Taha, S.A. and Raza, M., Protection by epicoprostanol against hyperglycemia and insulinitis in normal and diabetic rats., *J Ethnopharmacol.* **50**, 85-90 (1996)

5. Dahl, J.S. and Dahl, C.E., Coordinate regulation of unsaturated phospholipid, RNA, and protein synthesis in *Mycoplasma capricolum* by cholesterol., Proc. Natl. Acad. Sci. U.S.A., **80**, 692-6 (1983).
6. Nimmo, M.R. and Cross, N.L., Structural features of sterols required to inhibit human sperm capacitation. Biol Reprod., **68**, 1308-17(2003).

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