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ProductInformation

Cholesterol

Product Number **C 8667**
Storage Temperature -20 °C

Product Description

Molecular Formula: $C_{27}H_{46}O$
Molecular Weight: 386.7
CAS Number: 57-88-5
Melting Point: 147 to 150 °C.[1]
Specific Rotation: $[\alpha]^{25}_{d}$= -34 to -38°
(25 g/100 ml dioxane).[1]

Sheep's wool is used to prepare the wool grease that is the source for this product. It is purified from 95% cholesterol (Product No. C 8503).

A description of isolation and assay methods for cholesterol has been described.[2]

Cholesterol is a component used for the preparation and study of artificial model membranes. One example is a study of valinomycin induced changes in membrane potentials of red blood cell and phospholipid (phosphatidylcholine from egg yolk plus cholesterol) vesicle suspensions. Positively charged cyanine dyes were used that fluorimetrically respond to the change in potential.[3]

Cholesterol is precipitated by digitonin and gives an intense red color with rosaniline in chloroform solution.[4]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

Cholesterol monohydrate is practically insoluble in water (less then 0.5 mg/100 ml of water); slightly soluble in alcohol (1.29% w/w at 20 °C), more soluble in hot alcohol (100 g of saturated 96% alcoholic solution contains 28 g at 80 °C). Also one gram dissolves in 2.8 ml of ether, in 4.5 ml of chloroform, and in 1.5 ml of pyridine. The product is soluble in acetone, dioxane, ethyl acetate, benzene, petroleum ether, oils, fats, and in aqueous solutions of bile salts. Solutions should be protected from light.[4,5,6]

References

1. The United States Pharmacopeia XXI, p. 1550
2. Stadtman, T.C., Preparation and Assay of Cholesterol and Ergosterol. Methods in Enzymology, **3(63)**, 392-394 (1957).
3. Sims, P.J., et al., Studies on the mechanism by which cyanine dyes measure membrane potential in red blood cells and phosphatidylcholine vesicles. Biochemistry **13(16)**, 3315-3330 (1974).
4. The Merck Index, 11th ed., Entry# 2204
5. Martindale The Extra Pharmacopoeia, 29th ed., Reynolds, J. E. F., ed., The Pharmaceutical Press (London, England: 1989), p. 1324.
6. HANDBOOK OF LIPID RESEARCH, **4**, 406 (1988).

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