

Cholesterol

Catalog number: L-6012

Molecular Formula: C₂₇H₄₆O

MW: 386.65

CAS#: 57-88-5

Alternate Name: 5-Cholesten-3beta-ol

Solubility: chloroform, ethyl acetate, methylene chloride (>10 mg/mL), ethanol (10 mg/mL)

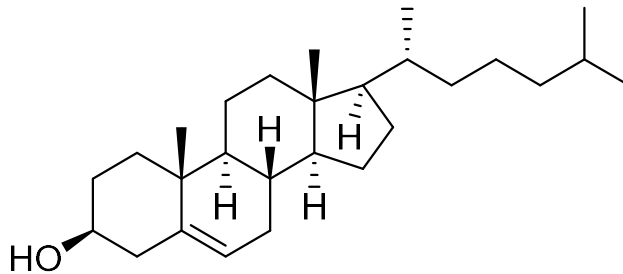
Storage and Handling: Store dry at 4 °C. Stock solutions should be stored frozen (-20 °C or below).

Background: Cholesterol is an essential lipid with an important structural role in building and maintaining cell membranes, modulating fluidity and permeability. Cholesterol is formed from lanosterol and is converted to bile in the liver. Abnormally high blood cholesterol levels are associated with cardiovascular disease. Cholesterol is an integral component of lipid nanoparticles for delivery of RNA. It improves efficacy possibly by promoting membrane fusion and promoting endosomal escape.

References: 1) F. de Meyer, B. Smit “Effect of cholesterol on the structure of a phospholipid bilayer” (2009) Proc. Natl. Acad. Sci. USA 106(10): 3654-3658.

2) P. Singh, *et al.* “Cholesterol Biosynthesis and Homeostasis in Regulation of the Cell Cycle” (2013) PLOSOne, DOI:10.1371/journal.pone.0058833.

3) M. Rafieian-Kopaei, *et al.* (2014) “Atherosclerosis: Process, Indicators, Risk Factors and New Hopes” In. J. Prev. Med. 5(8): 927-946.



Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

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