

PRODUCT DATA SHEET

5- α -Cholestane

Catalog number: 1115

Common names: N/A

Source: synthetic

Solubility: chloroform, ethyl ether, hexane

CAS number: 481-21-0

Molecular Formula: C₂₇H₄₈

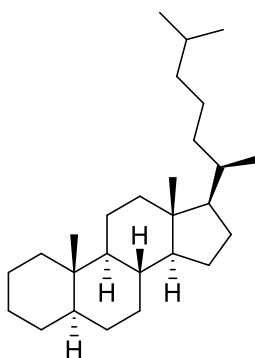
Molecular Weight: 373

Storage: -20°C

Purity: GC >98%

TLC System: chloroform/methanol (99:1 by vol.)

Appearance: solid



Application Notes:

5- α -Cholestane is the non-hydroxy, hydrogenated form of cholesterol and is useful as an internal standard for studies involving sterols.¹ Cholesterol is a sterol that is essential for all animal life, being critical for membrane permeability and fluidity and for many cellular functions. It is a sterol that is both synthesized in animals and also acquired from the diet. Phytosterols have been found to compete with cholesterol for absorption in the intestinal tract which results in a reduction of cholesterol absorption.² Plant sterols are important components of membranes and have a particular role in the plasma membrane, mitochondrial outer membrane, and endoplasmic reticulum. Plant sterols will complex with glycosphingolipids in raft-like sub-domains and can affect many cellular functions including membrane fluidity, permeability, activity of membrane-bound enzymes, cellular differentiation, cellular signaling, and cellular proliferation. Plant sterols have been used extensively in humans to attempt to lower cholesterol and treat certain cancers.³

Selected References:

1. R. Iborra et al. "Advanced Glycation in macrophages induces intracellular accumulation of 7-ketocholesterol and total sterols by decreasing the expression of ABCA-1 and ABCG-1" *Lipids in Health and Disease*, vol. 10 pp. 1-7, 2011
2. R. Ostlund et al. "Phytosterols that are naturally present in commercial corn oil significantly reduce cholesterol absorption in humans" *Am J Clin Nutr*, Vol. 75(6) pp. 1000-1004, 2002
3. A. de Jong, J. Plat, R. Mensink "Metabolic effects of plant sterols and stanols (Review)" *Journal of Nutritional Biochemistry*, Vol. 14:7 pp. 362-369, 2003

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