

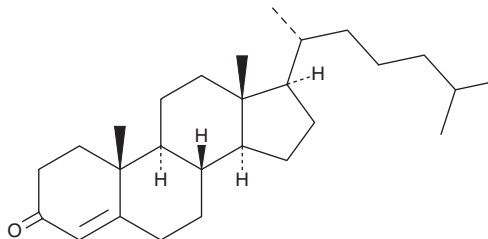
PRODUCT INFORMATION



Cholestenone

Item No. 25713

CAS Registry No.: 601-57-0
Formal Name: cholest-4-en-3-one
Synonyms: 4-Cholesten-3-one, Δ^4 -Cholestenone, NSC 63000, NSC 134926
MF: $C_{27}H_{44}O$
FW: 384.6
Purity: $\geq 95\%$
UV/Vis.: λ_{max} : 242 nm
Supplied as: A crystalline solid
Storage: $-20^\circ C$
Stability: ≥ 4 years



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

Laboratory Procedures

Cholestenone is supplied as a crystalline solid. A stock solution may be made by dissolving the cholestenone in the solvent of choice, which should be purged with an inert gas. Cholestenone is soluble in organic solvents such as ethanol and dimethyl formamide. The solubility of cholestenone in these solvents is approximately 2 and 0.1 mg/ml, respectively.

Description

Cholestanone is a cholesterol metabolite that has a keto group in place of the 3-hydroxy group on cholesterol.¹ It decreases TGF- β -induced Smad2 phosphorylation and TGF- β expression and prevents inhibition of DNA synthesis by TGF- β in Mv1Lu cells when used at a concentration of 50 $\mu g/ml$.² Increased fecal excretion of cholestenone is correlated with an increased risk of colorectal cancer. Cholestenone reduces serum cholesterol levels in a variety of animal models but is toxic to rats when administered at doses of 700-1,000 mg/kg per day, inducing hypertrophy in and reducing the activity of the adrenal gland.³ It has been used as synthetic intermediate in the synthesis of steroids.⁴

References

1. Salen, G., Batta, A.K., Tint, G.S., *et al.* Inverse relationship between plasma cholestanol concentrations and bile acid synthesis in sitosterolemia. *J. Lipid Res.* **35(10)**, 1878-1887 (1994).
2. Chen, C.-L., Wu, D.-C., Liu, M.-Y., *et al.* Cholest-4-en-3-one attenuates TGF- β responsiveness by inducing TGF- β receptors degradation in Mv1Lu cells and colorectal adenocarcinoma cells. *J. Recept. Signal Transduct. Res.* **37(2)**, 189-199 (2017).
3. Steinberg, D., Fredrickson, D.S., and Avigan, J. Effects of Δ^4 -cholestenone in animals and in man. *Proc. Soc. Exp. Biol. Med.* **97(4)**, 784-790 (1958).
4. Wu, K., Li, W., Song, J., *et al.* Production, purification, and identification of cholest-4-en-3-one produced by cholesterol oxidase from *Rhodococcus* sp. in aqueous/organic biphasic system. *Biochem. Insights* **8(Suppl 1)**, 1-8 (2015).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM