

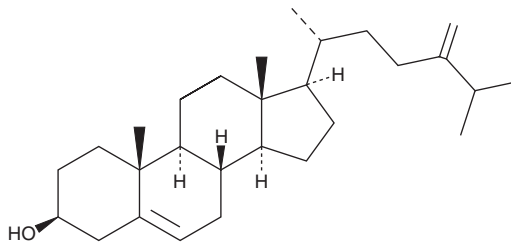
PRODUCT INFORMATION



24-methylene Cholesterol

Item No. 41696

CAS Registry No.: 474-63-5
Formal Name: ergosta-5,24(28)-dien-3 β -ol
Synonyms: NSC 232664, Ostreasterol
MF: C₂₈H₄₆O
FW: 398.7
Purity: $\geq 98\%$
Supplied as: A solid
Storage: -20°C
Stability: ≥ 4 years



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

Laboratory Procedures

24-methylene Cholesterol is supplied as a solid. A stock solution may be made by dissolving the 24-methylene cholesterol in the solvent of choice, which should be purged with an inert gas. 24-methylene Cholesterol is slightly soluble (0.1-1 mg/ml) in chloroform and methanol.

Description

24-methylene Cholesterol is a derivative of cholesterol (Item Nos. 9003100 | 39088 | 39448) and an inhibitor of COX-1 and COX-2.¹ It inhibits COX-1 and COX-2 by 50 and 33%, respectively, when used at a concentration of 25 $\mu\text{g/ml}$ in a cell-free assay. It inhibits lipid peroxidation by 58% at the same concentration in a lipid peroxidation assay using large unilamellar vesicles. 24-methylene Cholesterol (1 μM) increases the replicative lifespan of K6001 yeast.² It inhibits the proliferation of A549 lung cancer cells when used at concentrations of 3 and 30 μM .³ It also induces apoptosis and cell cycle arrest at the sub-G₀/G₁ phase in the same cells. 24-methylene Cholesterol is a component of honeybee (*A. mellifera*) royal jelly, and its levels are reduced after honeybee exposure to a multi-pesticide-containing pollen supplement.^{4,5}

References

1. Lu, X., Dissanayake, A.A., Xiao, C., *et al.* The edible seaweed *Laminaria japonica* contains cholesterol analogues that inhibit lipid peroxidation and cyclooxygenase enzymes. *PLoS One* **17**(1), e0258980 (2022).
2. Sun, Y., Lin, Y., Cao, X., *et al.* Sterols from *Mytilidae* show anti-aging and neuroprotective effects via anti-oxidative activity. *Int. J. Mol. Sci.* **15**(12), 21660-21673 (2014).
3. Cutignano, A., Conte, M., Tirino, V., *et al.* Cytotoxic potential of the marine diatom *Thalassiosira rotula*: Insights into bioactivity of 24-Methylene cholesterol. *Mar. Drugs* **20**(10), 595 (2022).
4. Yan, S., Wang, X., Sun, M., *et al.* Investigation of the lipidomic profile of royal jelly from different botanical origins using UHPLC-IM-Q-TOF-MS and GC-MS. *LWT Food Sci. Technol.* **169**, 113894 (2022).
5. Milone, J.P., Chakrabarti, P., Sagili, R.R., *et al.* Colony-level pesticide exposure affects honey bee (*Apis mellifera* L.) royal jelly production and nutritional composition. *Chemosphere* **263**, 128183 (2021).

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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