Product Information

5α-hydroxy-6-keto Cholesterol
Item No. 10007601

CAS Registry No.: 13027-33-3
Formal Name: 3β,5α-dihydroxy-cholestan-6-one
Synonyms: Cholestane-6-oxo-3β,5α-diol,
6-Oxo-3,5-diol
MF: C27H46O3
FW: 418.7
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid

Laboratory Procedures

For long term storage, we suggest that 5α-hydroxy-6-keto cholesterol (6-oxo-3,5-diol) be stored as supplied at -20°C. It should be stable for at least two years.

6-Oxo-3,5-diol is supplied as a crystalline solid. A stock solution may be made by dissolving the 6-oxo-3,5-diol in an organic solvent purged with an inert gas. 6-Oxo-3,5-diol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 6-oxo-3,5-diol in these solvents is approximately 5, 0.5, and 20 mg/ml, respectively.

6-Oxo-3,5-diol is sparingly soluble in aqueous buffers. Therefore, further dilutions of the organic solvent solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Cholesterol is the most abundant neutral lipid present in the surfactant of the lung epithelial lining fluid. The double bond between carbons 5 and 6 of cholesterol is susceptible to attack by ozone within this surfactant environment. 6-Oxo-3,5-diol is a major metabolite of cholesterol formed during exposure of lung epithelial cells to ozone, with formation of 5β,6β-epoxysterols as a predominant precursor. Exposure of C57BL/6J mice to 0.5-3 ppm ozone produced a dose-dependent formation of 6-oxo-3,5-diol which was detectable in the bronchoalveolar lavage fluid, lavaged cells, and lung homogenates. 6-Oxo-3,5-diol is a potent inhibitor of cholesterol synthesis in human bronchial epithelial cells with an IC₅₀ of 350 nM and exhibits significant cytotoxicity in the low μM range. Therefore, the toxic effects of ozone may be mediated by formation oxysterols of this type.

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/10007601

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only the original customer that the material will meet our specifications in the state of delivery. Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

The limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees. Buyer’s exclusive remedy and Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman’s option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Cayman Chemical is a wholly owned subsidiary of TCI Chemicals (UK) Ltd. A division of H&E TCI AG Switzerland.

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/10007601