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: 6-Oxo-3,5-diol,
             Cholestan-6-oxo-3β,5α-diol
MF: C27H46O3
FW: 418.7
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years

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

Laboratory Procedures

5α-hydroxy-6-keto Cholesterol is supplied as a crystalline solid. A stock solution may be made by dissolving the 5α-hydroxy-6-keto cholesterol in the solvent of choice, which should be purged with an inert gas. 5α-hydroxy-6-keto Cholesterol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 5α-hydroxy-6-keto cholesterol in these solvents is approximately 5, 0.5, and 20 mg/ml, respectively.

Description

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. 5α-hydroxy-6-keto Cholesterol (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-epoxycholesterol as a predominant precursor.1 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 bronchalveolar lavage fluid, lavaged cells, and lung homogenates.2 6-Oxo-3,5-diol is a potent inhibitor of cholesterol synthesis in human bronchial epithelial cells with an IC_{50} of 350 nM and exhibits significant cytotoxicity in the low µM range.3 Therefore, the toxic effects of ozone may be mediated by formation oxysterols of this type.

References