PRODUCT INFORMATION

25-hydroxy Cholesterol
Item No. 11097

CAS Registry No.: 2140-46-7
Formal Name: cholest-5-ene-3β,25-diol
MF: C27H46O2
FW: 402.7
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

25-hydroxy Cholesterol is supplied as a crystalline solid. A stock solution may be made by dissolving the 25-hydroxy cholesterol in the solvent of choice. 25-hydroxy Cholesterol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of 25-hydroxy cholesterol in ethanol and DMF is approximately 20 and 2 mg/ml, respectively and approximately 100 µg/ml in DMSO.

25-hydroxy Cholesterol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 25-hydroxy cholesterol should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 25-hydroxy Cholesterol has a solubility of approximately 500 µg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

25-hydroxy Cholesterol is a side-chain substituted oxysterol derived from dietary cholesterol that inhibits the cleavage of sterol regulatory element binding proteins (SREBPs) to suppress endogenous cholesterol synthesis in various cell types.1 It has been implicated in a variety of metabolic events including cholesterol homeostasis and atherosclerosis as well as antitumor activities as it has been shown to induce apoptosis through down-regulation of Bcl-2 expression and activation of caspases.2 Immunomodulating capabilities have also been observed as the oxysterol can act as a LXR-RXR ligand coupling cholesterol synthesis to T cell proliferation, can reduce (EC50 ~ 65 nM) IgA production by B cells in response to IL-2, and can suppress differentiation of monocytes into macrophages.3-5

References