
Product Data Sheet

Product Name: 25(S)-27-hydroxy Cholesterol

Cat. No.: GC11700

Chemical Properties

Cas. No. 56845-83-1

Chemical Name (25S)-cholest-5-ene-3 β ,26-diolSMILES O[C@@H]1CC2=CC[C@]3([H])[C@@](CC[C@]4([C@@]3([H])CC[C@]4([H])[C@@H](CCC[C@H](C)CO)C)C)([H])[C@](C)2CC1Formula C₂₇H₄₆O₂

M.Wt 402.7

Solubility \leq 20mg/ml in ethanol;0.1mg/ml in DMSO;2mg/ml in dimethyl formamide

Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure 25(S)-27-hydroxy Cholesterol**Background**

25(S)-27 hydroxy Cholesterol is a stereoisomer of the endogenous oxysterol 27-hydroxy cholesterol. 27-hydroxy Cholesterol is a sterol 27-hydroxylase-mediated cholesterol hydroxylation product involved in activating LXR α and LXR β and potently suppressing cholesterol biosynthesis [1,2].

Liver X receptors (LXRs) belong to the nuclear receptor superfamily member. LXRs are ligand-activated transcription factors containing two LXR isoforms termed as α and β . LXRs play central roles in the transcriptional control of lipid metabolism. LXRs function as nuclear cholesterol sensors that are activated in response to elevated intracellular cholesterol levels in multiple cell types. Activation of LXRs induces the expression of the genes involved in cholesterol absorption, transport, efflux, and excretion. LXRs are potential targets for a variety of diseases, such as hypertriglyceridemia [3]. LXRs have

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

also been involved in modulating immune and inflammatory responses in macrophages [3].

25(S)-27 hydroxy Cholesterol was the less predominant-occurring (~20%) stereoisomer of the endogenous oxysterol 27-hydroxy cholesterol. 27-hydroxy Cholesterol activated LXR α and LXR β with the EC50 values of 85 and 71 nM, respectively [1,2].

References:

[1] Fu, X. ,Menke, J.G.,Chen, Y., et al. 27-Hydroxycholesterol is an endogenous ligand for liver X receptor in cholesterol-loaded cells. The Journal of Biological Chemistry 276(42), 38378-38387 (2001).

[2] Javitt, N. B. 25R,26-Hydroxycholesterol revisited: Synthesis, metabolism, and biologic roles. Journal of Lipid Research 43, 665-670 (2002).

[3] Zelcer N, Tontonoz P. Liver X receptors as integrators of metabolic and inflammatory signaling[J]. The Journal of clinical investigation, 2006, 116(3): 607-614.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA