

**Product Name:** 27-Hydroxycholesterol

**Catalog No.:** 3907

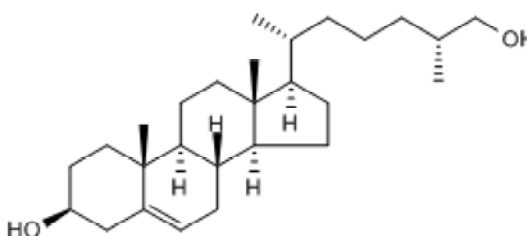
**Batch No.:** 3

CAS Number: 20380-11-4

IUPAC Name: (3 $\beta$ ,25*R*)-Cholest-5-ene-3,26-diol

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>27</sub>H<sub>46</sub>O<sub>2</sub>  
**Batch Molecular Weight:** 402.65  
**Physical Appearance:** White solid  
**Solubility:** ethanol to 20 mM  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**TLC:** R<sub>f</sub> = 0.6 (Ethyl acetate:Petroleum ether [1:1])  
**HPLC:** Shows 97.6% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	80.54	11.51	
Found	80.43	11.74	

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**Description:**

27-Hydroxycholesterol is a liver X receptor (LXR) agonist. Also estrogen receptor partial agonist. Suppresses  $\beta$ -estradiol-mediated breast cancer cell proliferation in vitro. Also increases  $\alpha$ -synuclein levels and induces apoptosis in human neuroblastoma cells in vitro. Endogenous cholesterol metabolite.

**Physical and Chemical Properties:**

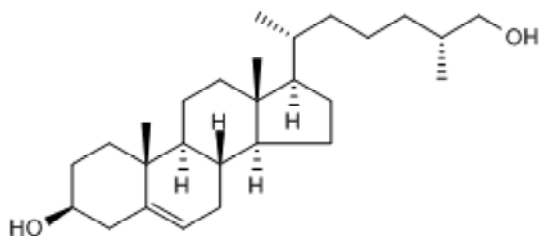
Batch Molecular Formula: C<sub>27</sub>H<sub>46</sub>O<sub>2</sub>

Batch Molecular Weight: 402.65

Physical Appearance: White solid

**Minimum Purity:**  $\geq$ 98%

**Batch Molecular Structure:**



**References:**

**DuSell et al** (2008) 27-hydroxycholesterol is an endogenous selective estrogen receptor modulator *Mol.Endocrinol.* **22** 65. PMID: 17872378.

**Rantham Prabhakara et al** (2008) Differential effects of 24-hydroxycholesterol and 27-hydroxycholesterol on tyrosine hydroxylase and  $\alpha$ -synuclein in human neuroblastoma SH-SY5Y cells. *J.Neurochem.* **107** 1722. PMID: 19014385.

**Fu et al** (2001) 27-hydroxycholesterol is an endogenous ligand for liver X receptor in cholesterol-loaded cells. *J.Biol.Chem.* **276** 38378. PMID: 11504730.

**Storage:** Store at -20°C

**Solubility & Usage Info:**

ethanol to 20 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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