

# Certificate of Analysis

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**Product Name:** Vitamin D<sub>3</sub>

**Catalog No.:** 4156

**Batch No.:** 3

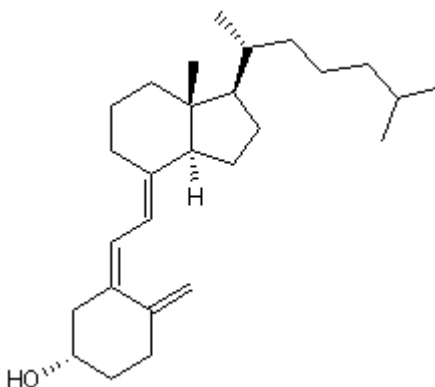
CAS Number: 67-97-0

EC Number: 200-673-2

IUPAC Name: 9,10-Secocholesta-5,7,10(19)-trien-3 $\beta$ -ol

## 1. PHYSICAL AND CHEMICAL PROPERTIES

<b>Batch Molecular Formula:</b>	C <sub>27</sub> H <sub>44</sub> O.¼H <sub>2</sub> O
<b>Batch Molecular Weight:</b>	389.14
<b>Physical Appearance:</b>	White solid
<b>Solubility:</b>	DMSO to 50 mM ethanol to 100 mM
<b>Storage:</b>	Store at +4°C
<b>Batch Molecular Structure:</b>	



## 2. ANALYTICAL DATA

<b>HPLC:</b>	Shows 99.4% purity
<b><sup>1</sup>H NMR:</b>	Consistent with structure
<b>Mass Spectrum:</b>	Consistent with structure
<b>Optical Rotation:</b>	[ $\alpha$ ] <sub>D</sub> = +108.8 (Concentration = 0.8, Solvent = Ethanol)
<b>Microanalysis:</b>	

	Carbon	Hydrogen	Nitrogen
Theoretical	83.34	11.53	
Found	83.58	11.8	

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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IUPAC Name: 9,10-Secocholesta-5,7,10(19)-trien-3 $\beta$ -ol

**Description:**

Precursor of calcifediol (Cat. No. 4036). Naturally occurring form of vitamin D; predominantly active form found in humans.

**Physical and Chemical Properties:**

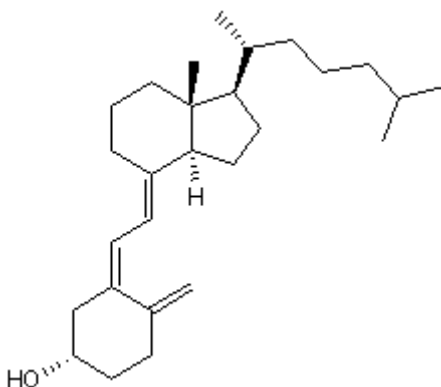
Batch Molecular Formula: C<sub>27</sub>H<sub>44</sub>O.¼H<sub>2</sub>O

Batch Molecular Weight: 389.14

Physical Appearance: White solid

**Minimum Purity:** >98%

**Batch Molecular Structure:**



**Storage:** Store at +4°C. This product is packaged under an inert atmosphere.

**CAUTION -** This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

**Solubility & Usage Info:**

DMSO to 50 mM

ethanol to 100 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.

**References:**

**Lane** (2010) Vitamin D and systemic lupus erythematosus: bones, muscles, and joints. *Curr.Rheumatol.Rep.* **12** 259. PMID: 20429045.

**Welsh et al** (2003) Vitamin D-3 receptor as a target for breast cancer prevention. *J.Nutr.* **133** (7 Suppl) 2425S. PMID: 12840219.

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