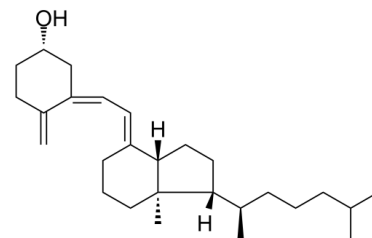


## Data Sheet

<b>Product Name:</b>	Cholecalciferol
<b>Cat. No.:</b>	CS-1179
<b>CAS No.:</b>	67-97-0
<b>Molecular Formula:</b>	C <sub>27</sub> H <sub>44</sub> O
<b>Molecular Weight:</b>	384.64
<b>Target:</b>	Endogenous Metabolite; VD/VDR
<b>Pathway:</b>	Metabolic Enzyme/Protease; Vitamin D Related
<b>Solubility:</b>	H <sub>2</sub> O : < 0.1 mg/mL (insoluble); DMSO : 10 mg/mL (26.00 mM); Need ultrasonic)



### BIOLOGICAL ACTIVITY:

Cholecalciferol (Vitamin D<sub>3</sub>) is a naturally occurring form of vitamin D; Reported that upon metabolic activation, Cholecalciferol induces cell differentiation and prevents proliferation of cancer cells. IC<sub>50</sub> value: Target: Vitamin D acts through a receptor that is a member of the ligand-dependent transcription factor superfamily. Modulates the proliferation and differentiation of both normal and cancer cells. Has antiproliferative and antimetastatic effects on breast, colon, and prostate cancer cells. Activated vitamin D receptors in intestine and bone maintain calcium absorbance and homeostasis.

### References:

- [1]. Leibowitz SB, Kantoff PW. Differentiating agents and the treatment of prostate cancer: Vitamin D<sub>3</sub> and peroxisome proliferator-activated receptor gamma ligands. *Semin Oncol.* 2003 Oct;30(5):698-708.
- [2]. Di Rosa M, Malaguarnera M, Nicoletti F, Malaguarnera L. Vitamin D<sub>3</sub>: a helpful immuno-modulator. *Immunology.* 2011 Oct;134(2):123-39. doi: 10.1111/j.1365-2567.2011.03482.x.
- [3]. Krishnan AV, Feldman D. Mechanisms of the anti-cancer and anti-inflammatory actions of vitamin D. *Annu Rev Pharmacol Toxicol.* 2011;51:311-36. doi: 10.1146/annurev-pharmtox-010510-100611.
- [4]. Nigwekar SU, Bhan I, Thadhani R. Ergocalciferol and cholecalciferol in CKD. *Am J Kidney Dis.* 2012 Jul;60(1):139-56. doi: 10.1053/j.ajkd.2011.12.035.

### CAIndexNames:

Cyclohexanol, 3-[(2E)-2-[(1R,3aS,7aR)-1-[(1R)-1,5-dimethylhexyl]octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-4-methylene-, (1S,3Z)-

### SMILES:

C[C@@]12[C@](CC[C@]2([H])[C@H](C)CCCC(C)([H]))/C(CCC1)=C/C=C3C(CC[C@H](O)C\3)=C

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

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