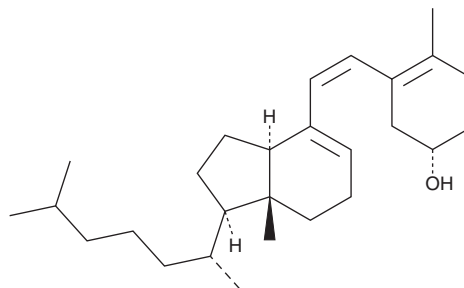


# PRODUCT INFORMATION



## Previtamin D<sub>3</sub> Item No. 33409

**CAS Registry No.:** 1173-13-3  
**Formal Name:** (1S)-3-[(1Z)-2-[(1R,3aR,7aR)-1-[(1R)-1,5-dimethylhexyl]-2,3,3a,6,7,7a-hexahydro-7a-methyl-1H-inden-4-yl]ethenyl]-4-methyl-3-cyclohexen-1-ol  
**Synonym:** Precalciferol  
**MF:** C<sub>27</sub>H<sub>44</sub>O  
**FW:** 384.6  
**Purity:** ≥80%  
**Supplied as:** An oil  
**Storage:** -80°C  
**Stability:** ≥1 year



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Previtamin D<sub>3</sub> is supplied as an oil. A stock solution may be made by dissolving the previtamin D<sub>3</sub> in the solvent of choice, which should be purged with an inert gas. Previtamin D<sub>3</sub> is soluble in the organic solvent DMSO at a concentration of approximately 10 mM.

### Description

Previtamin D<sub>3</sub> is an intermediate in the synthesis of the calcitriol precursor vitamin D<sub>3</sub> (Item No. 11792).<sup>1,2</sup> It is formed from 7-dehydro cholesterol (Item No. 14612) in the epidermis *via* photolytic conversion by UVB radiation and is isomerized to vitamin D<sub>3</sub>. The rate of previtamin D<sub>3</sub> synthesis is dependent on the solar zenith angle, which is affected by the latitude, season, and time of day. It is also dependent on the level of skin pigmentation and age, among other factors, with a negative correlation to higher pigmentation and age.<sup>2-4</sup>

### References

1. Rosen, C.J. Vitamin D insufficiency. *N. Engl. J. Med.* **364(3)**, 248-254 (2011).
2. Chen, T.C., Chimeh, F., Lu, Z., *et al.* Factors that influence the cutaneous synthesis and dietary sources of vitamin D. *Arch. Biochem. Biophys.* **460(2)**, 213-217 (2007).
3. Holick, M.F., Chen, T.C., Lu, Z., *et al.* Vitamin D and skin physiology: A D-lightful story. *J. Bone Miner. Res.* **22 (Suppl. 2)**, V28-33 (2007).
4. Webb, A.R. Who, what, where and when-influences on cutaneous vitamin D synthesis. *Prog. Biophys. Mol. Biol.* **92(1)**, 17-25 (2006).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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