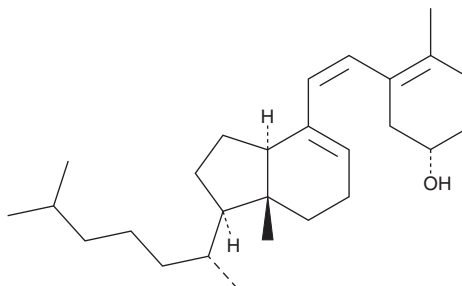


PRODUCT INFORMATION



Previtamin D₃ 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: C₂₇H₄₄O
FW: 384.6
Purity: ≥80%
Supplied as: An oil
Storage: -80°C
Stability: ≥2 years



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

Laboratory Procedures

Previtamin D₃ is supplied as an oil. A stock solution may be made by dissolving the previtamin D₃ in the solvent of choice, which should be purged with an inert gas. Previtamin D₃ is soluble in the organic solvent DMSO at a concentration of approximately 10 mM.

Description

Previtamin D₃ is an intermediate in the synthesis of the calcitriol precursor vitamin D₃ (Item No. 11792).^{1,2} It is formed from 7-dehydro cholesterol (Item No. 14612) in the epidermis via photolytic conversion by UVB radiation and is isomerized to vitamin D₃. The rate of previtamin D₃ 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.²⁻⁴

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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