

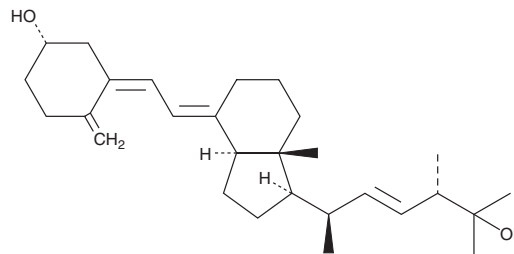
# PRODUCT INFORMATION



## 25-hydroxy Vitamin D<sub>2</sub>

Item No. 12078

**CAS Registry No.:** 21343-40-8  
**Formal Name:** 4-methylene-3-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1R,2E,4S)-5-hydroxy-1,4,5-trimethyl-2-hexeny]-7a-methyl-4H-inden-4-ylidene]ethylidene]-cyclohexanol  
**Synonyms:** Ercalcidiol, 25-Hydroxyergocaliferol, 25(OH)-Vitamin D<sub>2</sub>  
**MF:** C<sub>28</sub>H<sub>44</sub>O<sub>2</sub>  
**FW:** 412.7  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 211, 264 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

25-hydroxy Vitamin D<sub>2</sub> is supplied as a crystalline solid. A stock solution may be made by dissolving the 25-hydroxy vitamin D<sub>2</sub> in the solvent of choice, which should be purged with an inert gas. 25-hydroxy Vitamin D<sub>2</sub> is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 25-hydroxy vitamin D<sub>2</sub> in these solvents is approximately 20 mg/ml.

25-hydroxy Vitamin D<sub>2</sub> is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 25-hydroxy vitamin D<sub>2</sub> should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 25-hydroxy Vitamin D<sub>2</sub> has a solubility of approximately 0.3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

25-hydroxy Vitamin D<sub>2</sub> is a metabolite of vitamin D<sub>2</sub> (Item No. 11791).<sup>1</sup> It is formed from vitamin D<sub>2</sub> by the cytochrome P450 (CYP) isoforms CYP2R1 and CYP27A1, which have 25-hydroxylase activity, and is bound to vitamin D binding protein (DBP) and albumin in the liver, then secreted into the bloodstream.<sup>2</sup> 25-hydroxy Vitamin D<sub>2</sub> is transported to the kidney, where it is preferentially 24-hydroxylated by CYP24A1 to produce 24,25-dihydroxy vitamin D<sub>2</sub>.<sup>2</sup> It can also be hydroxylated by CYP27B1 to produce 1,25-dihydroxy vitamin D<sub>2</sub>.<sup>1,2</sup> Serum levels of 25-hydroxy vitamin D<sub>2</sub> have been used as a marker of vitamin D status.<sup>3</sup>

### References

1. DeLuca, H.F., Sicinski, R.P., Tanaka, Y., *et al.* Biological activity of 1,25-dihydroxyvitamin D<sub>2</sub> and 24-epi-1,25-dihydroxyvitamin D<sub>2</sub>. *Am. J. Physiol.* **254(4 Pt 1)**, E402-E406 (1998).
2. Bikle, D. Vitamin D: Production, metabolism, and mechanisms of action. *Endotext*. Feingold, K.R., Anawalt, B., Boyce, A., *et al.*, *MDText.com/Inc.* (2000).
3. Saenger, A.K., Laha, T.J., Bremner, D.E., *et al.* Quantification of serum 25-hydroxyvitamin D<sub>2</sub> and D<sub>3</sub> using HPLC-tandem mass spectrometry and examination of reference intervals for diagnosis of vitamin D deficiency. *Am. J. Clin. Pathol.* **125(6)**, 914-920 (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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