

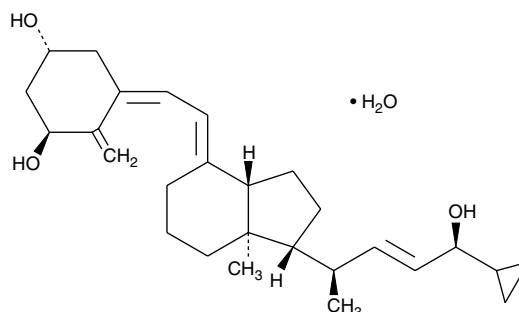
# Product Information



## Calcipotriol (hydrate)

Item No. 10009599

**CAS Registry No.:** 112828-00-9  
**Formal Name:** 24-cyclopropyl-(1 $\alpha$ ,3 $\beta$ ,5Z,7E,22E,24S)-9,10-secochola-5,7,10(19),22-tetraene-1,3,24-triol, monohydrate  
**Synonym:** Calcipotriene  
**MF:** C<sub>27</sub>H<sub>40</sub>O<sub>3</sub> • H<sub>2</sub>O  
**FW:** 412.6  
**Purity:** ≥98%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 264 nm



### Laboratory Procedures

For long term storage, we suggest that calcipotriol (hydrate) be stored as supplied at -20°C. It will be stable for at least two years.

Calcipotriol (hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the calcipotriol (hydrate) in an organic solvent purged with an inert gas. Calcipotriol (hydrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of calcipotriol (hydrate) in these solvents is approximately 50 mg/ml.

Calcipotriol (hydrate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Calcipotriol (hydrate) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Calcipotriol (hydrate) has a solubility of approximately 0.15 mg/ml in a 1:5 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Calcipotriol (hydrate) is a low-calcemic vitamin D receptor (VDR) agonist. Calcipotriol (hydrate) is about 200 times less potent in its effects on calcium metabolism than vitamin D (1,25[OH]D<sub>3</sub>).<sup>1</sup> Binding of calcipotriol (hydrate) to the VDR increases AP-1, a transcription factor important for keratinocyte differentiation, and reduces expression of JunB protein, a transcriptional activator in the inflammatory response.<sup>2</sup> Calcipotriol (hydrate) also induces expression of thymic stromal lymphopoietin, which triggers T-cell differentiation in keratinocytes.<sup>3</sup>

### References

1. Kragballe, K. Vitamin D analogues in the treatment of psoriasis. *J. Cell. Biochem.* **49**, 46-52 (1992).
2. Johansen, C., Kragballe, K., Rasmussen, M., *et al.* Activator protein 1 DNA binding activity is decreased in lesional psoriatic skin compared with nonlesional psoriatic skin. *Br. J. Dermatol.* **151**, 600-607 (2004).
3. Li, M., Hener, P., Zhang, Z., *et al.* Topical vitamin D<sub>3</sub> and low-calcemic analogs induce thymic stromal lymphopoietin in mouse keratinocytes and trigger an atopic dermatitis. *Proc. Natl. Acad. Sci. USA* **103**(31), 11736-11741 (2006).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/10009599](http://www.caymanchem.com/catalog/10009599)

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**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

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