

# PRODUCT INFORMATION

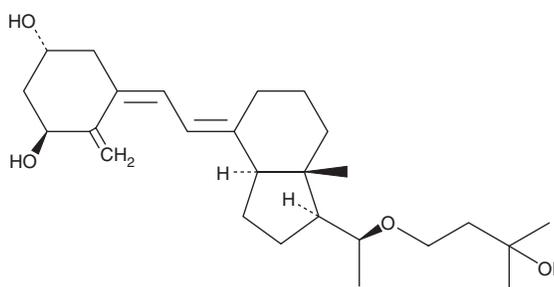


## 22-Oxacalcitriol

Item No. 10794

**CAS Registry No.:** 103909-75-7  
**Formal Name:** 4-methylene-5Z-[2E-[(3aS)-octahydro-1S-[1S-(3-hydroxy-3-methylbutoxy)ethyl]-7aS-methyl-4H-inden-4-ylidene]ethylidene]-1R,3S-cyclohexanediol

**Synonym:** Maxacalcitrol  
**MF:** C<sub>26</sub>H<sub>42</sub>O<sub>4</sub>  
**FW:** 418.6  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 211, 264 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

22-Oxacalcitriol is supplied as a crystalline solid. A stock solution may be made by dissolving the 22-oxacalcitriol in the solvent of choice, which should be purged with an inert gas. 22-Oxacalcitriol is soluble in the organic solvent ethanol at a concentration of approximately 1 mg/ml.

### Description

Agonists of the vitamin D receptor are used to suppress parathyroid hormone (PTH) synthesis and secretion in the treatment of hyperparathyroidism associated with renal failure.<sup>1</sup> 22-Oxacalcitriol is an analog of calcitriol that, like calcitriol, is a receptor-active form of vitamin D<sub>3</sub> which effectively blocks PTH synthesis.<sup>2,3</sup> First reported to avoid hypercalcemia, an undesirable side effect of calcitriol, prolonged treatment with 22-oxacalcitriol can be calcemic in humans.<sup>2,3</sup> Analogs of calcitriol, including 22-oxacalcitriol, inhibit human keratinocyte proliferation while inducing differentiation and is beneficial in treating psoriasis.<sup>4,5</sup> 22-Oxacalcitriol also blocks the proliferation while inducing differentiation and apoptosis of certain tumor cells.<sup>6</sup>

### References

1. Brown, A.J., Dusso, A.S., and Slatopolsky, E. Vitamin D analogues for secondary hyperparathyroidism. *Nephrol. Dial. Transplant.* **17(Suppl)**, 10-19 (2002).
2. Brown, A.J., Ritter, C.R., Finch, J.L., *et al.* The noncalcemic analogue of vitamin D, 22-oxacalcitriol, suppresses parathyroid hormone synthesis and secretion. *J. Clin. Invest.* **84(3)**, 728-732 (1989).
3. Akizawa, T., Suzuki, M., Akiba, T., *et al.* Long-term effect of 1,25-dihydroxy-22-oxavitamin D<sub>3</sub> on secondary hyperparathyroidism in haemodialysis patients. One-year administration study. *Nephrol. Dial. Transplant.* **17(Suppl)**, 28-36 (2002).
4. Takahashi, H., Ibe, M., Kinouchi, M., *et al.* Similarly potent action of 1,25-dihydroxyvitamin D<sub>3</sub> and its analogues, tacalcitol, calcipotriol, and maxacalcitol on normal human keratinocyte proliferation and differentiation. *J. Dermatol. Sci.* **31(1)**, 21-28 (2003).
5. Okubo, Y., Natsume, S., Usui, K., *et al.* Combination therapy using maxacalcitol and corticosteroid lotions preliminary to monotherapy with maxacalcitol lotion for scalp psoriasis. *J. Dermatolog. Treat.* **25(1)**, 34-37 (2012).
6. Seubwai, W., Wongkham, C., Puapairoj, A., *et al.* 22-Oxa-1,25-dihydroxyvitamin D<sub>3</sub> efficiently inhibits tumor growth in inoculated mice and primary histoculture of cholangiocarcinoma. *Cancer* **116(23)**, 5535-5543 (2010).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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