

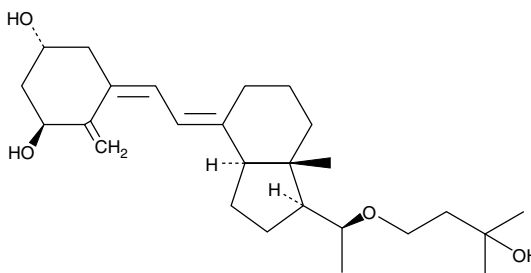
# Product Information



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



### Laboratory Procedures

For long term storage, we suggest that 22-oxacalcitriol be stored as supplied at -20°C. It should be stable for at least two years.

22-Oxacalcitriol is supplied as a crystalline solid. A stock solution may be made by dissolving the 22-oxacalcitriol in the solvent of choice. 22-Oxacalcitriol is soluble in ethanol, which should be purged with an inert gas. The solubility of 22-oxacalcitriol in ethanol is approximately 1 mg/ml. It is slightly soluble in acetone, chloroform, and DMSO and insoluble in water.

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**, 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**, 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**, 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.* (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).

### Related Products

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