1,24-dihydroxy Vitamin D₃
Item No. 12079

CAS Registry No.: 57333-96-7
Formal Name: 4-methylene-5Z-[2E-[3aS]-octahydro-1R-[4R-
hydroxy-1R,5-dimethylhexyl]-7αR-methyl-4H-inden-
4-ylidene]ethylidene]-1R,3S-cyclohexanediol
Synonyms: Bonalfa, Curatoderm, 1α,24(R)-
Dihydroxycholecalciferol, PRI 2191, Tacalcitol, TV 02
MF: C₂₇H₄₄O₃
FW: 416.6
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λ<sub>max</sub> 212, 264 nm

Laboratory Procedures
For long term storage, we suggest that 1,24-dihydroxy vitamin D₃ be stored as supplied at -20°C. It should be stable for at least two years.

1,24-dihydroxy Vitamin D₃ is supplied as a crystalline solid. A stock solution may be made by dissolving the 1,24-dihydroxy vitamin D₃ in the solvent of choice. 1,24-dihydroxy Vitamin D₃ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of 1,24-dihydroxy vitamin D₃ in these solvents is approximately 20 mg/ml.

1,24-dihydroxy Vitamin D₃ is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 1,24-dihydroxy vitamin D₃ should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 1,24-dihydroxy Vitamin D₃ has a solubility of approximately 0.3 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Vitamin D aids in the absorption of calcium and has central roles in bone formation and maintenance, hypertension, cancer, and immunity. In addition, the active form of vitamin D₃, 1,25-dihydroxy vitamin D₃, decreases the proliferation and increases differentiation of keratinocytes. 1,24-dihydroxy Vitamin D₃ is an analog of 1,25-dihydroxy vitamin D₃ which, when used in a 4 μg/g ointment, safely and effectively suppresses psoriasis. It also is effective at increasing the time interval between phototherapy cycles when ultraviolet light is used for psoriasis. 1,24-dihydroxy Vitamin D₃ inhibits the growth of both normal and psoriatic human keratinocytes (IC₅₀ ~ 10 nM) via the vitamin D receptor. It also suppresses the production of RANTES and IL-8 by human dermal fibroblasts and reduces cutaneous lymphocyte-associated antigen on CD4⁺ T cells, impairing migration and skin infiltration.

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/12079

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.

WARRANTY AND LIMITATION OF REMEDY
Cayman Chemical Company makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extend beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer’s exclusive remedy and Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman’s option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.