Product Name: 24, 25-Dihydroxy VD3

**Chemical Properties**

- **Product Name:** 24, 25-Dihydroxy VD3
- **Cas No.:** 40013-87-4
- **M.Wt:** 416.64
- **Formula:** C27H44O3

**Chemical Name:** (6R)-6-[(1R,3aS,4E,7aR)-4-[(2Z)-2-[5S]-5-hydroxy-2-methylidenecyclohexylidene]ethylidene]-7a-methyl-2,3,3a,5,6,7-hexahydro-1H-inden-1-yl]-2-methylheptane-2,3-diol

**Canonical SMILES:** CC(CCC(C(C)(C)O)O)C1CCC2C1(CCCC2=CC=C3CC(CCC3=C)O)C

**Solubility:** Soluble in DMSO

**Storage:** Store at -20°C

**General tips:** For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

**Shopping Condition:**
- Evaluation sample solution: ship with blue ice
- All other available size: ship with RT, or blue ice upon request

**Biological Activity**

**Targets:** Vitamin D Related

**Pathways:** VD/VDR

**Description:**

24, 25-dihydroxyvitamin D3 [24,25(OH)2D3] is a Vitamin D (VD [1]) analogue that can inhibit some metabolic processes. It dose-dependently inhibited the intracellular 10-mM-Ca2+-evoked Ca2+-concentration-increase in enterocytes with an EC50 of 4.9 nM [2]. Vitamin D is important in calcium homeostasis, skeleton maintenance, and skeleton
development. Two successive reactions are involved in the formation of VD: first the formation of 25-hydroxyvitamin D (25OHD); and second the formation of 1α, 25-dihydroxyvitamin D [1, 25(OH) 2D], the active hormonal vitamin D [3].

Ca2+ at 10 mM typically increased [Ca2+]i to a new stable value of 264 ± 16 nM from the basal value of 203 ± 13 nM. 24R, 25(OH)2D3 at concentrations from 0.2 pM to 202 nM dose-dependently inhibited the initial [Ca2+]i increase during the first 18 s (t= 300 to 318 s) and the final [Ca2+]i increase (t= 550 to 600 s), with EC50 values of 4.9 nM and 30 nM, respectively. 24R, 25(OH)2D3 at a concentration of 20 nM obtained the maximal inhibition (approximately 60%) to the Ca2+ uptake [2].

In adult female mongrel dogs with renal insufficiency, 24,25(OH)2D3 significantly decreased ionized calcium compared with the CK, without any changes in detected total calcium. This decrease was evident during the 2nd week. 24,25-(OH)2D3 treatment for an additional 4 weeks resulted in a very small additional decrease in the ionized calcium. 24,25(OH)2D3 made calcium balance in dogs slightly positive, while the calcium balance in the CK dogs was slightly negative [4].

Reference:

Product Citations

Product Validation
Intraday and interday precision and recovery of rat brain homogenates and serum.

The levels of targeted analytes and ratio of 25(OH)D3/24,25(OH)2D3 in brain homogenates and serum.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.