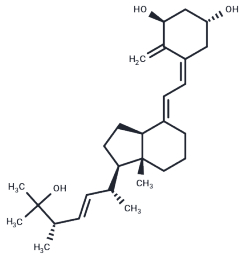
Data Sheet (Cat.No.TQ0216)

TargetMol

Ercalcitriol

Chemical Properties



CAS No. : 60133-18-8

Formula: C28H44O3

Molecular Weight: 428.65

Storage: Store at low temperature
Powder: -20°C for 3 years
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Ercalcitriol (1α,25-Dihydroxy Vitamin D2) is an active metabolite of vitamin D2 that strengthens immunity by regulating cathelicidin antimicrobial peptide (CAMP) and defensin β-4 (DEFB4) genes in normal and transformed cells, combating pathogenic infections.
Targets(IC50)	Endogenous Metabolite,Vitamin,Drug Metabolite
In vivo	Ercalcitriol binds to vitamin D receptor (VDR), a nuclear receptor, activates the interaction between VDR and retinol X receptor (RXR) to form VDR/RXR/ cofactor complex, which binds to Vitamin D response elements in the promoter region of target genes to regulate gene transcription[3].

Solubility Information

Solubility	DMSO: 45 mg/mL (104.98 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (4.67 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3329 mL	11.6645 mL	23.3291 mL
5 mM	0.4666 mL	2.3329 mL	4.6658 mL
10 mM	0.2333 mL	1.1665 mL	2.3329 mL
50 mM	0.0467 mL	0.2333 mL	0.4666 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Mawer EB, Berry JL, Cundall JP, Still PE, White A.A sensitive radioimmunoassay using a monoclonal antibody that is equipotent for ercalcitriol and calcitriol (1,25-dihydroxy vitamin D2 and D3).Clin Chim Acta. 1990 Oct 15;190(3): 199-209.

Shamik J. Parikh, Marni Edelman, Gabriel I. Uwaifo et al. The Relationship between Obesity and Serum 1,25-Dihydroxy Vitamin D Concentrations in Healthy Adults. The Journal of Clinical Endocrinology & Metabolism March 1, 2004 vol. 89 no. 3 1196-1199

Nakane M, et al. Differential effects of Vitamin D analogs on bone formation and resorption. J Steroid Biochem Mol Biol. 2006 Jan;98(1):72-7.

Gombart AF, et al. Human cathelicidin antimicrobial peptide (CAMP) gene is a direct target of the vitamin D receptor and is strongly up-regulated in myeloid cells by 1,25-dihydroxyvitamin D3. FASEB J. 2005 Jul;19(9):1067-77.