Calcifediol monohydrate

Cat. No.: HY-32351A

CAS No.: 63283-36-3

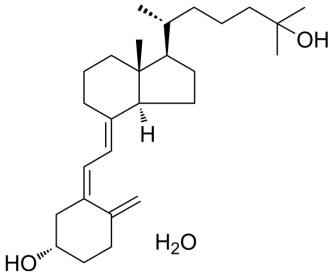
Molecular Formula: $C_{27}H_{46}O_3$

Molecular Weight: 418.65

Target: Endogenous Metabolite; VD/VDR

Pathway: Metabolic Enzyme/Protease; Vitamin D Related/Nuclear Receptor

Storage: -20°C, protect from light, stored under nitrogen
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (119.43 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3886 mL	11.9432 mL	23.8863 mL
	5 mM	0.4777 mL	2.3886 mL	4.7773 mL
	10 mM	0.2389 mL	1.1943 mL	2.3886 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.97 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.97 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Calcifediol monohydrate (25-hydroxy Vitamin D3 monohydrate), a major circulating metabolite of vitamin D3, is a potent VDR ligand[1][2].

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

Calcifediol in either liposomes or ethanolic solution has no effect on the release of the proinflammatory cytokine KC from Pseudomonas-infected murine epithelial cells. Treatment of infected, human bronchial 16-HBE cells with Calcifediol liposomes results in a significant reduction in bacterial survival[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Chem Biol. 2022 Aug 18.
- Proc Natl Acad Sci U S A. 2022 Apr 12;119(15):e2117004119.
- Int Immunopharmacol. 2023 Jun 30;122:110558.
- Front Pharmacol. 2020 Mar 31;11:200.
- Int J Mol Sci. 2017 Dec 19;18(12). pii: E2764.

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REFERENCES

[1]. Castoldi A, et al. Calcifediol-loaded liposomes for local treatment of pulmonary bacterial infections. Eur J Pharm Biopharm. 2016 Nov 22.

[2]. Wei Zheng, et al. Vitamin D-induced vitamin D receptor expression induces tamoxifen sensitivity in MCF-7 stem cells via suppression of Wnt/β-catenin signaling. Biosci Rep. 2018 Dec 7;38(6):BSR20180595.

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