7α,25-Dihydroxycholesterol

Cat. No.: HY-113962

CAS No.: 64907-22-8

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

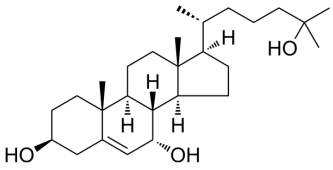
Molecular Weight: 418.65

Target: EBI2/GPR183; Endogenous Metabolite

Pathway: GPCR/G Protein; Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 4.55 mg/mL (10.87 mM; Need ultrasonic)

Ethanol : < 1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / 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: 15% Cremophor EL >> 85% Saline
   Solubility: 5 mg/mL (11.94 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

7α, 25-dihydroxycholesterol (7α,25-OHC) is a potent and selective agonist and endogenous ligand of the orphan GPCR receptor EBI2 (GPR183). 7α, 25-dihydroxycholesterol is highly potent at activating EBI2 (EC_{50}=140 pM; K_d=450 pM). 7α, 25-dihydroxycholesterol can serve as a chemokine directing migration of B cells, T cells and dendritic cells[1][2].

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

In vitro, 7α, 25-dihydroxycholesterol (7α,25-OHC) stimulates the migration of EBI2-expressing mouse B and T cells with half-maximum effective concentration values around 500 pM, but had no effect on EBI2-deficient cells[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

EBI2-deficient B cells or normal B cells desensitized by 7α,25-Dihydroxycholesterol (1 μM; 1.5 hours) pre-treatment shows reduced homing to follicular areas of the spleen[1].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Metab. 2023 Sep 7;S1550-4131(23)00304-2.

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REFERENCES

[1]. Liu C, et al. Oxysterols direct B-cell migration through EBI2. Nature. 2011 Jul 27;475(7357):519-23.

[2]. Hannedouche S, et al. Oxysterols direct immune cell migration via EBI2. Nature. 2011 Jul 27;475(7357):524-7.

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