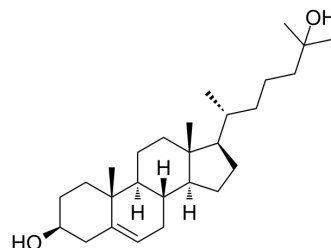


## 25-Hydroxycholesterol

<b>Cat. No.:</b>	HY-113134		
<b>CAS No.:</b>	2140-46-7		
<b>Molecular Formula:</b>	C <sub>27</sub> H <sub>46</sub> O <sub>2</sub>		
<b>Molecular Weight:</b>	402.65		
<b>Target:</b>	Endogenous Metabolite		
<b>Pathway:</b>	Metabolic Enzyme/Protease		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

Ethanol : 14.29 mg/mL (35.49 mM; Need ultrasonic)  
 DMSO : 5 mg/mL (12.42 mM; Need ultrasonic)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	2.4835 mL	12.4177 mL	24.8355 mL
5 mM	0.4967 mL	2.4835 mL	4.9671 mL
10 mM	0.2484 mL	1.2418 mL	2.4835 mL

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

#### In Vivo

- Add each solvent one by one: 50% PEG300 >> 50% saline  
 Solubility: 10 mg/mL (24.84 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
 Solubility: ≥ 0.5 mg/mL (1.24 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 0.5 mg/mL (1.24 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

25-Hydroxycholesterol (25-OHC) is a metabolite of cholesterol that is produced and secreted by macrophages in response to Toll-like receptor (TLR) activation. 25-hydroxycholesterol is a potent (EC<sub>50</sub>≈65 nM) and selective suppressor of IgA production by B cells.

#### IC<sub>50</sub> & Target

Human Endogenous Metabolite

## In Vitro

The synthesis of 25-hydroxycholesterol is catalyzed by the enzyme cholesterol 25-hydroxylase, which uses cholesterol and molecular oxygen as substrates and NADPH as a cofactor. 25-hydroxycholesterol is a potent bioactive lipid in the innate and adaptive immune systems<sup>[1]</sup>.

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

## CUSTOMER VALIDATION

- Cell Metab. 2022 Aug 23;S1550-4131(22)00348-5.
- Mol Cell. 2023 Aug 17;83(16):3010-3026.e8.
- Life Sci. 2023 Apr 18;121698.
- Int Immunopharmacol. 2021 Apr 17;96:107643.
- Org Chem Front. 15 Feb 2022.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

[1]. McDonald JG, et al. Editorial: 25-Hydroxycholesterol: a new life in immunology. J Leukoc Biol. 2010 Dec;88(6):1071-2.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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