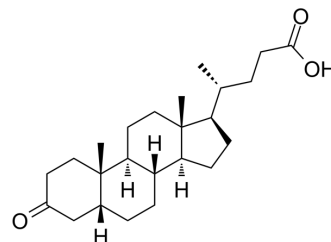


## 3-Oxo-5 $\beta$ -cholanoic acid

Cat. No.:	HY-125801
CAS No.:	1553-56-6
Molecular Formula:	C <sub>24</sub> H <sub>38</sub> O <sub>3</sub>
Molecular Weight:	374.56
Target:	ROR
Pathway:	Metabolic Enzyme/Protease; Vitamin D Related/Nuclear Receptor
Storage:	-20°C, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 100 mg/mL (266.98 mM; Need ultrasonic)  
H<sub>2</sub>O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.6698 mL	13.3490 mL	26.6980 mL
	5 mM	0.5340 mL	2.6698 mL	5.3396 mL
	10 mM	0.2670 mL	1.3349 mL	2.6698 mL

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

#### In Vivo

- Add each solvent one by one: 0.5% CMC-Na/saline water  
Solubility: 3.33 mg/mL (8.89 mM); Suspended solution; Need ultrasonic and warming and heat to 60°C
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (6.67 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE- $\beta$ -CD in saline)  
Solubility: ≥ 2.5 mg/mL (6.67 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (6.67 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

3-Oxo-5 $\beta$ -cholanoic acid (Dehydrolithocholic acid), a bile acid metabolite, inhibits the differentiation of TH17 cells by directly binding to the key transcription factor ROR $\gamma$ t ( $K_d=1.13 \mu\text{M}$ )<sup>[1]</sup>.

#### In Vitro

Treatment with 3-Oxo-5 $\beta$ -cholanoic acid significantly reduced the activity of the ROR $\gamma$ t reporter. These data suggest that 3-Oxo-5 $\beta$ -cholanoic acid probably inhibits TH17 cell differentiation by physically interacting with ROR $\gamma$ t, and inhibiting its transcriptional activity<sup>[1]</sup>.

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

#### In Vivo

3-Oxo-5 $\beta$ -cholanoic acid (Dehydrolithocholic acid) (0.3% (w/w); p.o.; for 1 week) significantly reduces the percentage of ileal TH17 cells<sup>[1]</sup>.

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

Animal Model:	B6 Jax mice (with a faecal slurry containing SFB) <sup>[1]</sup>
Dosage:	0.3% (w/w)
Administration:	Gavaged; for 1 week
Result:	Significantly reduced the percentage of ileal TH17 cells.

## REFERENCES

[1]. Hang S, et al. Bile acid metabolites control TH17 and Treg cell differentiation. Nature. 2019 Dec;576(7785):143-148.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA