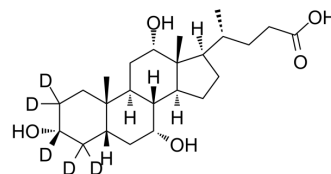


## Cholic acid-d<sub>5</sub>

<b>Cat. No.:</b>	HY-N0324S1
<b>CAS No.:</b>	53007-09-3
<b>Molecular Formula:</b>	C <sub>24</sub> H <sub>35</sub> D <sub>5</sub> O <sub>5</sub>
<b>Molecular Weight:</b>	413.6
<b>Target:</b>	Endogenous Metabolite
<b>Pathway:</b>	Metabolic Enzyme/Protease
<b>Storage:</b>	4°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 (120.89 mM)  
 DMSO : ≥ 50 mg/mL (120.89 mM)  
 0.1 M NaOH : 33.33 mg/mL (80.59 mM; ultrasonic and adjust pH to 9 with NaOH)  
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 H<sub>2</sub>O : 0.67 mg/mL (1.62 mM; Need ultrasonic)  
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 \* "≥" means soluble, but saturation unknown.

Solvent	Mass	Concentration		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.4178 mL	12.0890 mL	24.1779 mL
	5 mM	0.4836 mL	2.4178 mL	4.8356 mL
	10 mM	0.2418 mL	1.2089 mL	2.4178 mL

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (6.04 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (6.04 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (6.04 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Cholic acid-d<sub>5</sub> is the deuterium labeled Cholic acid. Cholic acid is a major primary bile acid produced in the liver and usually conjugated with glycine or taurine. It facilitates fat absorption and cholesterol excretion.

#### In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs<sup>[1]</sup>.

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

#### REFERENCES

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- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019;53(2):211-216.
- [2]. Li Y, et al. Mechanism of hepatic targeting via oral administration of DSPE-PEG-Cholic acid-modified nanoliposomes. *Int J Nanomedicine*. 2017 Feb 28;12:1673-1684.
- [3]. Pan X, et al. Cholic acid Feeding Leads to Increased CYP2D6 Expression in CYP2D6-Humanized Mice. *Drug Metab Dispos*. 2017 Apr;45(4):346-352.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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