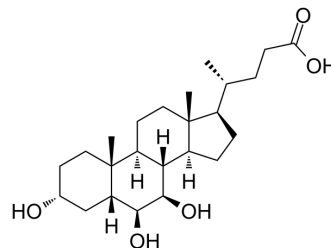


## β-Muricholic acid

<b>Cat. No.:</b>	HY-133707
<b>CAS No.:</b>	2393-59-1
<b>Molecular Formula:</b>	C <sub>24</sub> H <sub>40</sub> O <sub>5</sub>
<b>Molecular Weight:</b>	408.57
<b>Target:</b>	Endogenous Metabolite
<b>Pathway:</b>	Metabolic Enzyme/Protease
<b>Storage:</b>	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (244.76 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	<b>Preparing Stock Solutions</b>		1 mg	5 mg	10 mg
		1 mM	2.4476 mL	12.2378 mL	24.4756 mL
		5 mM	0.4895 mL	2.4476 mL	4.8951 mL
10 mM	0.2448 mL	1.2238 mL	2.4476 mL		
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (6.12 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (6.12 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (6.12 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	β-Muricholic acid is a potent and orally active biliary cholesterol-desaturating agent. β-Muricholic acid prevents cholesterol gallstones. β-Muricholic acid inhibits lipid accumulation. β-Muricholic acid has the potential for the research of nonalcoholic fatty liver disease (NAFLD) <sup>[1][2]</sup> .
<b>In Vitro</b>	β-Muricholic acid (100 μM; 48 h) inhibits lipid accumulation in mouse primary hepatocytes <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	β-Muricholic acid (Fed chow with 0.5% β-muricholic acid for 8 weeks) prevents diet-induced or experimental cholesterol gallstones in mice <sup>[2]</sup> .

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Animal Model:	6-8 weeks, Male C57L/J mice (with a lithogenic diet (2% cholesterol and 0.5% cholic acid)) [2]
Dosage:	0.5% $\beta$ -muricholic acid
Administration:	Fed chow with 0.5% $\beta$ -muricholic acid for 8 weeks
Result:	Decreased gallstone prevalence to 20% through significantly reducing biliary secretion rate, saturation index, and intestinal absorption of cholesterol, as well as inducing phase boundary shift and an enlarged Region E that prevented the transition of cholesterol from its liquid crystalline phase to solid crystals and stones.

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## REFERENCES

[1]. Takada S, et al. Stress can attenuate hepatic lipid accumulation via elevation of hepatic  $\beta$ -muricholic acid levels in mice with nonalcoholic steatohepatitis. Lab Invest. 2021 Feb;101(2):193-203.

[2]. Wang DQ, et al. Effect of beta-muricholic acid on the prevention and dissolution of cholesterol gallstones in C57L/J mice. J Lipid Res. 2002 Nov;43(11):1960-8.

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

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