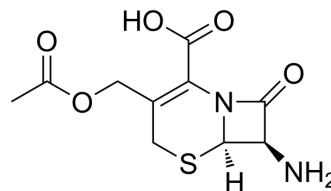


## 7-Aminocephalosporanic acid

<b>Cat. No.:</b>	HY-B1434		
<b>CAS No.:</b>	957-68-6		
<b>Molecular Formula:</b>	C <sub>10</sub> H <sub>12</sub> N <sub>2</sub> O <sub>5</sub> S		
<b>Molecular Weight:</b>	272.28		
<b>Target:</b>	Bacterial; Antibiotic; Beta-lactamase		
<b>Pathway:</b>	Anti-infection		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 1.1 mg/mL (4.04 mM; ultrasonic and adjust pH to 14 with NaOH)  
 DMSO : < 1 mg/mL (insoluble or slightly soluble)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.6727 mL	18.3634 mL	36.7269 mL
	5 mM	---	---	---
	10 mM	---	---	---

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

#### In Vivo

1. Add each solvent one by one: PBS  
 Solubility: 1 mg/mL (3.67 mM); Clear solution; Need ultrasonic and warming and heat to 60°C

### BIOLOGICAL ACTIVITY

#### Description

7-aminocephalosporanic acid (7-ACA) is a HSP90β inhibitor and an antibiotic. 7-Aminocephalosporanic acid is the core chemical structure of the synthesis of cephalosporin antibiotics and an effective β-lactamase inhibitor<sup>[1][2]</sup>.

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

β-lactam

#### In Vitro

7-Aminocephalosporanic acid (0-160 μM, 24 h) reduces cellular total cholesterol (TC) and triglyceride (TG) in HepG2 cells by decreasing sterol regulatory element-binding proteins (SREBPs)<sup>[2]</sup>.  
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

7-Aminocephalosporanic acid (5-25 mg/kg, i.p., every 2 days for 12 weeks) reduces lipid accumulation in HFD-induced obese mice<sup>[2]</sup>.

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

Animal Model:	HFD-induced obese mice <sup>[2]</sup>
Dosage:	5-25 mg/kg
Administration:	i.p., every 2 days for 12 weeks.
Result:	Improved glucose tolerance and insulin sensitivity. Decreased TC and TG in serum. Inhibited liver steatosis. Decreased the protein expression levels of hepatic SREBP-1 and SREBP-2.

## CUSTOMER VALIDATION

- Biochem Biophys Res Commun. 14 July 2022.

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

## REFERENCES

[1]. Zhang W, et al. 7-aminocephalosporanic acid, a novel HSP90 $\beta$  inhibitor, attenuates HFD-induced hepatic steatosis. Biochem Biophys Res Commun. 2022 Sep 24;622:184-191.

[2]. Ding JM, et al. Identification and Characterization of a New 7-Aminocephalosporanic Acid Deacetylase from Thermophilic Bacterium Alicyclobacillus tengchongensis. J Bacteriol. 2015 Nov 2;198(2):311-20.

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

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