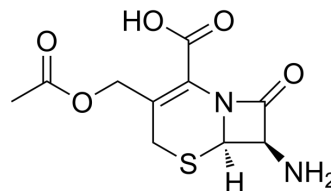


7-Aminocephalosporanic acid

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



SOLVENT & SOLUBILITY

In Vitro

H₂O : 1.1 mg/mL (4.04 mM; ultrasonic and adjust pH to 14 with NaOH)
 DMSO : < 1 mg/mL (insoluble or slightly soluble)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	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 HSP90 β inhibitor and an antibiotic. 7-Aminocephalosporanic acid is the core chemical structure of the synthesis of cephalosporin antibiotics and an effective β -lactamase inhibitor^{[1][2]}.

IC₅₀ & Target

β -lactam

In Vitro

7-Aminocephalosporanic acid (0-160 μ M, 24 h) reduces cellular total cholesterol (TC) and triglyceride (TG) in HepG2 cells by decreasing sterol regulatory element-binding proteins (SREBPs)^[2].
 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^[2].

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

Animal Model:	HFD-induced obese mice ^[2]
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

REFERENCES

[1]. Zhang W, et al. 7-aminocephalosporanic acid, a novel HSP90 β 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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