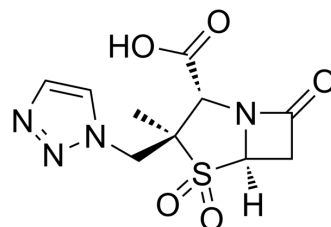


Tazobactam

Cat. No.:	HY-B1418		
CAS No.:	89786-04-9		
Molecular Formula:	C ₁₀ H ₁₂ N ₄ O ₅ S		
Molecular Weight:	300.29		
Target:	Bacterial; Antibiotic; Beta-lactamase		
Pathway:	Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (166.51 mM; Need ultrasonic)
 H₂O : 1 mg/mL (3.33 mM; ultrasonic and warming and heat to 60°C)

	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.3301 mL	16.6506 mL	33.3011 mL
	5 mM	0.6660 mL	3.3301 mL	6.6602 mL
	10 mM	0.3330 mL	1.6651 mL	3.3301 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: ≥ 2.08 mg/mL (6.93 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.08 mg/mL (6.93 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.08 mg/mL (6.93 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tazobactam (CL-298741) is a potent β-lactamases inhibitor and penicillin antibiotic. Tazobactam has antibacterial activity. Tazobactam can be used for pneumonia research^{[1][2]}.

IC₅₀ & Target

β-lactam

In Vitro

Tazobactam (CL-298741) (5 μg/mL; 18 hours) has bactericidal activity and inhibit the growth of the bacteria in a dose-

dependent manner^[2].

Tazobactam (CL-298741) (1-10 µg/mL; 6 hours; *Prot. vulgaris* and *M. morgan*) inhibits various types β-lactamase activity and with ID₅₀ values of \approx 10 µg/mL, respectively^[2].

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

In Vivo

Tazobactam (CL-298741) (1000 mg/kg; i.p.; four times a day, for 36 and 84 hours; BALB/c mice) decreases the number of bacteria in mice and survived in low doses^[1].

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

Animal Model:	BALB/c mice ^[1]
Dosage:	1000 mg/kg
Administration:	Intraperitoneal injection; four times a day, for 36 and 84 hours
Result:	Decreased the number of bacteria and neutrophils in BALF than in the control group.

CUSTOMER VALIDATION

- Nat Commun. 2022 Mar 2;13(1):1116.
- Antimicrob Agents Chemother. 2023 May 18;e0160322.
- Int J Med Microbiol. 2021 Oct;70(10).
- Microbiol Spectr. 2023 Apr 24;e0069223.
- Microbiol Spectr. 2022 Dec 8;e0303822.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Harada Y, et, al. In vitro and in vivo activities of piperacillin-tazobactam and meropenem at different inoculum sizes of ESBL-producing *Klebsiella pneumoniae*. Clin Microbiol Infect. 2014 Nov;20(11):O831-9.

[2]. Higashitani F, et, al. Inhibition of beta-lactamases by tazobactam and in-vitro antibacterial activity of tazobactam combined with piperacillin. J Antimicrob Chemother. 1990 Apr;25(4):567-74.

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