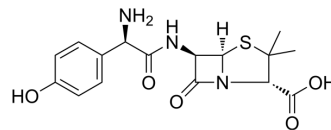


Amoxicillin

Cat. No.:	HY-B0467A
CAS No.:	26787-78-0
Molecular Formula:	C ₁₆ H ₁₉ N ₃ O ₅ S
Molecular Weight:	365.4
Target:	Bacterial; Antibiotic
Pathway:	Anti-infection
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 83.33 mg/mL (228.05 mM; Need ultrasonic)						
	H ₂ O : 2 mg/mL (5.47 mM; Need ultrasonic)						
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg	
				1 mM	2.7367 mL	13.6836 mL	27.3673 mL
				5 mM	0.5473 mL	2.7367 mL	5.4735 mL
10 mM				0.2737 mL	1.3684 mL	2.7367 mL	
Please refer to the solubility information to select the appropriate solvent.							
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (5.69 mM); Clear solution						
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (5.69 mM); Clear solution						
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (5.69 mM); Clear solution						

BIOLOGICAL ACTIVITY

Description	Amoxicillin (Amoxycillin) is an antibiotic with good oral absorption and broad spectrum antimicrobial activity. Amoxicillin inhibits the biosynthesis of polypeptides in the cell wall, thereby inhibiting cell growth ^{[1][2][3]} .
In Vitro	Amoxicillin (Amoxycillin) (1-100 μM; 24 hours; L. acidophilus) decreases living cells and increases degree of cell wall rupture in a dose-dependent manner ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Amoxicillin (Amoxycillin) (7 mg/kg; i.h.; female ICR/Swiss mice) inhibits strain numbers and improves the survival rate of rats

in 1 mg/L or less^[2].

Amoxicillin (Amoxycillin) (1.6-9.5 mg/kg; p.o.; daily, for 7 or 14 days; swiss albino mice) has against infection with chlamydia trachomatis in mice^[3].

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

Animal Model:	Female ICR/Swiss mice ^[2]
Dosage:	7 mg/kg
Administration:	Subcutaneous injection; every 8 h, for 24 hours
Result:	Inhibited bacterial numbers in a dose-dependent manner.
Animal Model:	Female ICR/Swiss mice ^[2]
Dosage:	7 mg/kg
Administration:	Subcutaneous injection; every 8 h, for 4 days
Result:	Survived all animals that were infected with organisms for which MICs were 1 mg/L or less, and with the two strains for which MICs were 2 mg/L, 20 to 40% mortality.
Animal Model:	Swiss albino mice ^[3]
Dosage:	1.6 and 9.5 mg/kg
Administration:	Oral administration; daily, for 7 or 14 days
Result:	Improved the activity of Chlamydia trachomatis infection in mice.

CUSTOMER VALIDATION

- Nat Commun. 2022 Mar 2;13(1):1116.
- Chemosphere. 2023 Oct 3;344:140353.
- Chemosphere. 2019 Jun;225:378-387.
- Environ Sci Pollut Res Int. 2017 Feb;24(6):5918-5932.
- Antimicrob Agents Chemother. 2021 Feb 17;65(3):e01921-20.

See more customer validations on www.MedChemExpress.com

REFERENCES

- [1]. Guo Y, et, al. Metabolic response of Lactobacillus acidophilus exposed to amoxicillin. J Antibiot (Tokyo). 2022 May;75(5):268-281.
- [2]. Andes D, et, al. In vivo activities of amoxicillin and amoxicillin-clavulanate against Streptococcus pneumoniae: application to breakpoint determinations. Antimicrob Agents Chemother. 1998 Sep;42(9):2375-9.
- [3]. Kramer MJ, et, al. Activity of oral amoxicillin, ampicillin, and oxytetracycline against infection with chlamydia trachomatis in mice. J Infect Dis. 1979 Jun;139(6):717-9.
- [4]. Geddes AM, et al. Introduction: historical perspective and development of amoxicillin/clavulanate. Int J Antimicrob Agents. 2007 Dec;30 Suppl 2:S109-12.

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