Amoxicillin trihydrate

Cat. No.: HY-B0467B

CAS No.: 61336-70-7

Molecular Formula: $C_{16}H_{25}N_3O_8S$

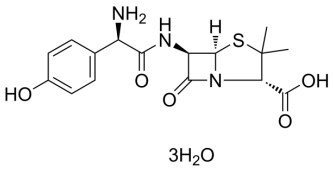
Molecular Weight: 419.45

Target: Bacterial; Antibiotic

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



$3H_2O$

SOLVENT & SOLUBILITY

In Vitro

DMSO : 10 mg/mL (23.84 mM; Need ultrasonic)

H_2O : 2 mg/mL (4.77 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.3841 mL	11.9204 mL	23.8407 mL
5 mM	0.4768 mL	2.3841 mL	4.7681 mL
10 mM	0.2384 mL	1.1920 mL	2.3841 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.96 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.96 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1 mg/mL (2.38 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Amoxicillin (Amoxycillin) trihydrateis an antibiotic with good oral absorption and broad spectrum antimicrobial activity. Amoxicillin trihydrateis inhibits the biosynthesis of polypeptides in the cell wall, thereby inhibiting cell growth[1][2][3].

In Vitro

Amoxicillin (Amoxycillin) trihydrate (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) trihydrate (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) trihydrate (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.

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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]. http://en.wikipedia.org/wiki/Amoxicillin

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