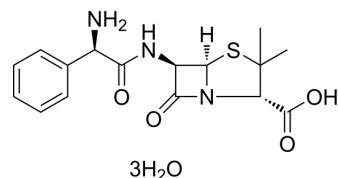


Ampicillin trihydrate

Cat. No.:	HY-B0522B
CAS No.:	7177-48-2
Molecular Formula:	C ₁₆ H ₂₅ N ₃ O ₇ S
Molecular Weight:	403.45
Target:	Bacterial; Antibiotic
Pathway:	Anti-infection
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

H₂O : 4.55 mg/mL (11.28 mM; ultrasonic and warming and heat to 60°C)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.4786 mL	12.3931 mL	24.7862 mL
	5 mM	0.4957 mL	2.4786 mL	4.9572 mL
	10 mM	0.2479 mL	1.2393 mL	2.4786 mL

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

BIOLOGICAL ACTIVITY

Description

Ampicillin trihydrate (D-(-)-α-Aminobenzylpenicillin trihydrate) is a broad-spectrum beta-lactam antibiotic against a variety of gram-positive and gram-negative bacteria.

IC₅₀ & Target

β-lactam

In Vitro

Ampicillin trihydrate (D-(-)-α-Aminobenzylpenicillin trihydrate) inhibits the growth of E. coli of swine origin in a dose-dependent manner. The effective inhibitory concentration of Ampicillin trihydrate is 2.5 μg/mL^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Ampicillin trihydrate (D-(-)-α-Aminobenzylpenicillin trihydrate) is very effective in alleviating the symptoms of hemorrhagic enteritis in a 11-week old pig^[1].
Ampicillin trihydrate produces maximum concentrations in bile twice as high as in serum. The peak concentration of ampicillin after an oral dose is as twice as high in portal blood as in peripheral blood^[2].
Ampicillin trihydrate provides neuroprotection against ischemia-reperfusion brain injury. Ampicillin trihydrate reduces the activities of MMPs and increases the expression level of GLT-1. Pretreatment with Ampicillin trihydrate significantly reduces medial hippocampal cell death following global forebrain ischemia^[3].

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

CUSTOMER VALIDATION

- Cell Metab. 2023 Sep 29;S1550-4131(23)00340-6.
- Nat Commun. 2022 Mar 2;13(1):1116.
- Nucleic Acids Res. 2022 Dec 12;gkac1141.
- Cell Rep Med. 2023 Dec 19;4(12):101340.
- Sci Adv. 2023 Feb 17;9(7):eade4770.

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REFERENCES

- [1]. Chopra SL, et al. Effect of Ampicillin on E. Coli of Swine Origin. Can J Comp Med Vet Sci. 1963 Sep;27(9):223-7.
- [2]. Lund B, et al. Ampicillin in portal and peripheral blood and bile after oral administration of ampicillin and pivampicillin. Eur J Clin Pharmacol. 1974;7(2):133-5.
- [3]. Lee KE, et al. The neuroprotective mechanism of ampicillin in a mouse model of transient forebrain ischemia. Korean J Physiol Pharmacol. 2016 Mar;20(2):185-92.
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Caution: Product has not been fully validated for medical applications. For research use only.

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