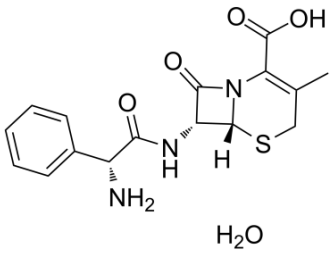
Cephalexin monohydrate

Cat. No.:	HY-B0200B
CAS No.:	23325-78-2
Molecular Formula:	$C_{16}H_{19}N_3O_5S$
Molecular Weight:	365.4
Target:	Antibiotic; Bacterial
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 : 6.67 mg/mL (18.25 mM; Need ultrasonic)
H_2O : 2 mg/mL (5.47 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	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: ≥ 0.67 mg/mL (1.83 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.67 mg/mL (1.83 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.67 mg/mL (1.83 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Cephalexin monohydrate is a potent, orally active and the first-generation cephalosporin antibiotic. Cephalexin monohydrate kills gram-positive and some gram-negative bacteria by disrupting the growth of the bacterial cell wall. Cephalexin monohydrate is used for the research of pneumonia, strep throat, and bacterial endocarditis, et al[1].

In Vitro

Cefalexin is not effective against infections caused by methicillin-resistant Staphylococcus aureus(MRSA), Enterococcus, or Pseudomonas. Cefalexin disrupts the synthesis of the peptidoglycan layer of bacterial cell walls which is responsible for cell

	wall structural integrity[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Chemosphere. 2019 Jun;225:378-387.
- Infect Immun. 2018 May 22;86(6). pii: e00090-18.
- Biomed Res Int. 2018 Jul 2;2018:3579832.

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REFERENCES

[1]. Cefalexin

[2]. Hongbaek Cho, et al. Beta-lactam antibiotics induce a lethal malfunctioning of the bacterial cell wall synthesis machinery. Cell. . 2014 Dec 4;159(6):1300-11.

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