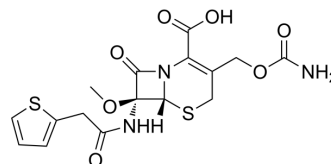


## Cefoxitin

<b>Cat. No.:</b>	HY-B1825
<b>CAS No.:</b>	35607-66-0
<b>Molecular Formula:</b>	C <sub>16</sub> H <sub>17</sub> N <sub>3</sub> O <sub>7</sub> S <sub>2</sub>
<b>Molecular Weight:</b>	427.45
<b>Target:</b>	Antibiotic; Bacterial
<b>Pathway:</b>	Anti-infection
<b>Storage:</b>	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

<b>In Vitro</b>	DMSO : 100 mg/mL (233.95 mM; Need ultrasonic)					
	<b>Preparing Stock Solutions</b>	<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
		<b>Concentration</b>				
		<b>1 mM</b>		2.3395 mL	11.6973 mL	23.3945 mL
		<b>5 mM</b>		0.4679 mL	2.3395 mL	4.6789 mL
	<b>10 mM</b>		0.2339 mL	1.1697 mL	2.3395 mL	
Please refer to the solubility information to select the appropriate solvent.						
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (5.85 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.85 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (5.85 mM); Clear solution</li> </ol>					

### BIOLOGICAL ACTIVITY

<b>Description</b>	Cefoxitin, a β-lactam antibiotic, is a broad-spectrum, second-generation cephalosporin. Cefoxitin has a broad spectrum antibacterial activity which includes anaerobic as well as Gram-positive and Gram-negative aerobic bacteria <sup>[1][2]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	β-lactam
<b>In Vitro</b>	Cefoxitin has good activity against Gram-positive bacteria. The MICs for several Gram-positive pathogens are in the range of 1-6 μg/mL <sup>[1]</sup> . Cefoxitin exhibits high efficacy killing <i>B. burgdorferi</i> at concentration of 1.25 μM/mL <sup>[3]</sup> .

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

#### In Vivo

Cefoxitin (20 mg/kg; i.p.; daily; for 5 days) effectively kills *B. burgdorferi* in C3H/HeN mice model<sup>[3]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Four-week-old female C3H/HeN mice <sup>[3]</sup>
Dosage:	20 mg/kg
Administration:	Intraperitoneal injection, daily, for five consecutive days
Result:	Had shown high efficacy killing <i>B. burgdorferi</i> in vivo.

## CUSTOMER VALIDATION

- Nat Microbiol. 2023 Mar;8(3):410-423.
- Nat Commun. 2023 Mar 22;14(1):1594.
- Nat Commun. 2022 Mar 2;13(1):1116.
- J Antimicrob Chemother. 2020 Jul 1;75(7):1850-1858.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

- [1]. E O Stapley, et al. Cefoxitin and cephamycins: microbiological studies. Rev Infect Dis. Jan-Feb 1979;1(1):73-89.
- [2]. R N Brogden, et al. Cefoxitin: a review of its antibacterial activity, pharmacological properties and therapeutic use. Drugs. 1979 Jan;17(1):1-37.
- [3]. Venkata Raveendra Pothineni, et al. In vitro and in vivo evaluation of cephalosporins for the treatment of Lyme disease. Drug Des Devel Ther. 2018; 12: 2915–2921.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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