



# SZABO SCANDIC

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Laborgeräte & Service

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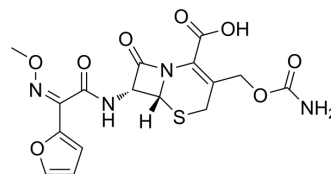
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## Cefuroxime

Cat. No.:	HY-B1256A
CAS No.:	55268-75-2
Molecular Formula:	C <sub>16</sub> H <sub>16</sub> N <sub>4</sub> O <sub>8</sub> S
Molecular Weight:	424.39
Target:	Bacterial; Antibiotic; Beta-lactamase
Pathway:	Anti-infection
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### BIOLOGICAL ACTIVITY

<b>Description</b>	Cefuroxime is an orally active second-generation cephalosporin antibiotic with increased stability to $\beta$ -lactamase. Cefuroxime has a broad spectrum activity against Gram-positive and Gram-negative bacteria <sup>[1]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	$\beta$ -lactam
<b>In Vitro</b>	<p>Cefuroxime is highly active against <i>S. aureus</i> (MIC=0.25 <math>\mu</math>g/ml), regardless of whether the strains produces a penicillinase. It is against <i>Staphylococcus aureus</i> methicillin susceptible; <i>S. aureus</i>, methicillin resistant, <i>Streptococcus pyogenes</i>, <i>S. pneumoniae</i>, <i>S. viridans</i>, <i>S. faecalis</i>, and <i>Clostridium</i> spp with MIC values of 0.25 <math>\mu</math>g/ml, 5.9 <math>\mu</math>g/ml, 0.125 <math>\mu</math>g/ml, 0.125 <math>\mu</math>g/ml, 0.125 <math>\mu</math>g/ml, &gt;125.0 <math>\mu</math>g/ml, and 1.2 <math>\mu</math>g/ml, respectively<sup>[1]</sup>.</p> <p>Cefuroxime (10-100 <math>\mu</math>g/ml; 2-6 hours) rapidly bactericidal, its action is comparatively slow against the strains of <i>S. aureus</i>, but, even so, over 99% of the initial inoculum is killed by 6 h. The gram-negative organisms are killed rapidly, and in most cases over 99% of the very large inocula are killed within 2 h; the <math>\beta</math>-lactamase-producing strains are killed as quickly as non-enzyme-producing strains<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>In Vivo</b>	<p>Rabbits (weighing 2.0 to 2.5 kg) are challenged intravenously with <i>S. aureus</i> strain 630 (a penicillinase-producing strain), the median effective dose of Cefuroxime is 3 mg/kg as a result of the protection test<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

### CUSTOMER VALIDATION

- Nat Commun. 2023 Mar 22;14(1):1594.
- Nat Commun. 2022 Mar 2;13(1):1116.
- J Chem Inf Model. 2021 Mar 18.
- Biomed Res Int. 2018 Jul 2;2018:3579832.

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

### REFERENCES

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[1]. Callaghan, et al. Cefuroxime, a New Cephalosporin Antibiotic: Activity in Vitro. Antimicrob Agents Chemother. 1976 Mar;9(3):511-9.

[2]. D M Ryan, et al. Cefuroxime, a New Cephalosporin Antibiotic: Activity in Vivo. Antimicrob Agents Chemother. 1976 Mar;9(3):520-5.

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

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