

PRODUCT INFORMATION

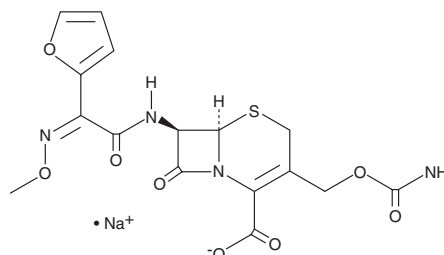


Cefuroxime (sodium salt)

Item No. 23627

CAS Registry No.: 56238-63-2
Formal Name: (6R,7R)-3-[[[(aminocarbonyl)oxy]methyl]-7-[[[(2Z)-2-(2-furanyl)-2-(methoxyimino)acetyl]amino]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, monosodium salt

MF: C₁₆H₁₅N₄O₈S • Na
FW: 446.4
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Cefuroxime (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the cefuroxime (sodium salt) in the solvent of choice, which should be purged with an inert gas. Cefuroxime (sodium salt) is slightly soluble in organic solvents such as DMSO and methanol.

Description

Cefuroxime is a cephalosporin antibiotic with broad-spectrum activity against Gram-positive and Gram-negative bacteria including *S. pyogenes*, *S. pneumoniae*, *S. viridans*, *E. coli*, *P. mirabilis*, *H. influenzae*, and *N. gonorrhoeae* (mean MICs = 0.005-8.2 µg/ml).¹ Like other cephalosporins, cefuroxime inhibits peptidoglycan crosslinking and bacterial cell wall synthesis.² It is resistant to hydrolysis by bacterial β-lactamases, increasing its efficacy against β-lactamase producing Gram-negative bacteria.³ Cefuroxime is protective against Gram-positive and Gram-negative infections *in vivo* with mean ED₅₀ values ranging from 2 to 35 and 1 to 55 mg/kg, in mice and rats, respectively.⁴ Formulations containing cefuroxime have been used to treat urinary tract infections.⁵

References

1. O'Callaghan, C.H., Sykes, R.B., Griffiths, A., *et al.* Cefuroxime, a new cephalosporin antibiotic: Activity *in vitro*. *Antimicrob. Agents Chemother.* **9(3)**, 511-519 (1976).
2. Curtis, N.A.C., Hughes, J.M., and Ross, G.W. Inhibition of peptidoglycan cross-linking in growing cells of *Escherichia coli* by penicillins and cephalosporins, and its prevention by R factor-mediated beta-lactamase. *Antimicrob. Agents Chemother.* **9(2)**, 208-213 (1976).
3. Richmond, M.H., and Wotton, S. Comparative study of seven cephalosporins: Susceptibility to beta-lactamases and ability to penetrate the surface layers of *Escherichia coli*. *Antimicrob. Agents Chemother.* **10(2)**, 219-222 (1976).
4. Ryan, D.M., O'Callaghan, C.H., and Muggleton, P.W. Cefuroxime, a new cephalosporin antibiotic: Activity *in vivo*. *Antimicrob. Agents Chemother.* **9(3)**, 520-525 (1976).
5. Masika, W.G., O'Meara, W.P., Holland, T.L., *et al.* Contribution of urinary tract infection to the burden of febrile illnesses in young children in rural Kenya. *PLoS One* **12(3)**, e0174199 (2017).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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