

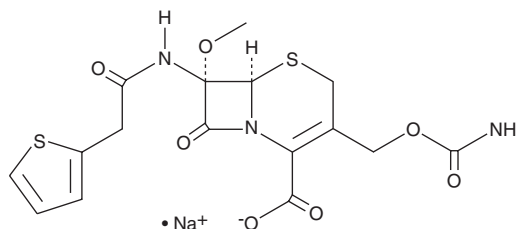
PRODUCT INFORMATION



Cefoxitin (sodium salt)

Item No. 15990

CAS Registry No.: 33564-30-6
Formal Name: (6R,7S)-3-[[[(aminocarbonyl)oxy]methyl]-7-methoxy-8-oxo-7-[[2-thienylacetyl)amino]-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, monosodium salt
Synonyms: Betacef, Cenomycin, Farmoxin, Merxin
MF: C₁₆H₁₆N₃O₇S₂ • Na
FW: 449.4
Purity: ≥98%
UV/Vis.: λ_{max}: 237, 265 nm
Supplied as: A crystalline 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

Cefoxitin (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the cefoxitin (sodium salt) in the solvent of choice, which should be purged with an inert gas. Cefoxitin (sodium salt) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of cefoxitin (sodium salt) in these solvents is approximately 20 and 0.25 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of cefoxitin (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of cefoxitin (sodium salt) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Cefoxitin is a cephalosporin antibiotic.¹ It is active against numerous Gram-negative bacteria, including strains of *P. mirabilis*, *P. vulgaris*, *E. coli*, *S. typhimurium*, and *S. enteritidis* (MICs = 4-32 µg/ml for all). It binds to *B. subtilis* penicillin-binding protein 2a (PBP2a), -2b, -3, -4, and -5 (IC₅₀s = 0.72, 0.19, 1.04, 0.14, and 0.19 µg/ml, respectively).² Cefoxitin increases survival in mice infected with *S. aureus*, *S. pyogenes*, or *K. pneumoniae* (ED₅₀s = 250, 63, and 795 µg/animal, respectively).¹ Formulations containing cefoxitin have been used in the treatment of bacterial infections.

References

1. Miller, A.K., Celozzi, E., Kong, Y., *et al.* Cefoxitin, a semisynthetic cephamycin antibiotic: In vivo evaluation. *Antimicrob. Agents Chemother.* **5(1)**, 33-37 (1974).
2. Sharifzadeh, S., Dempwolff, F., Kearns, D.B., *et al.* Harnessing β-lactam antibiotics for illumination of the activity of penicillin-binding proteins in *Bacillus subtilis*. *ACS Chem. Biol.* **15(5)**, 1242-1251 (2020).

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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