

PRODUCT INFORMATION



Cefepime (hydrochloride hydrate)

Item No. 23633

CAS Registry No.: 123171-59-5
Formal Name: 1-[[[(6R,7R)-7-[[[(2Z)-2-(2-amino-4-thiazolyl)-2-(methoxyimino)acetyl]amino]-2-carboxy-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-en-3-yl]methyl]-1-methyl-pyrrolidinium, monochloride, monohydrochloride, monohydrate

MF: C₁₉H₂₅N₆O₅S₂ • Cl [HCl] [H₂O]
FW: 571.5

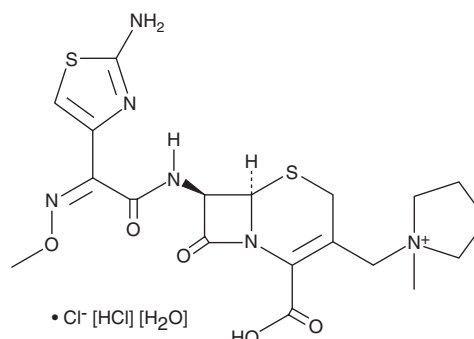
Purity: ≥90%

UV/Vis.: λ_{max}: 238, 264 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

Cefepime (hydrochloride hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the cefepime (hydrochloride hydrate) in the solvent of choice, which should be purged with an inert gas. Cefepime (hydrochloride hydrate) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of cefepime (hydrochloride hydrate) in these solvents is approximately 0.2 and 0.1 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 cefepime (hydrochloride hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of cefepime (hydrochloride hydrate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Cefepime is a broad-spectrum cephalosporin antibiotic that inhibits the growth of Gram-positive and Gram-negative bacteria.^{1,2} It inhibits the growth of some clinical isolates of *Corynebacterium*, *Streptococcus*, and *Staphylococcus* (MIC_{90s} = 0.03-8 µg/ml), but does not inhibit the growth of methicillin-resistant *S. aureus* (MRSA) or *S. haemolyticus* (MIC_{50s} = >128 µg/ml).¹ Cefepime inhibits the growth of some *Citrobacter*, *Enterobacter*, *Klebsiella*, *Salmonella*, *Serratia*, *Shigella*, and enteric bacilli species in addition to *P. mirabilis* and *E. coli* clinical isolates (MIC_{90s} = ≤0.12-2 µg/ml).² It also inhibits the growth of *E. coli* and *Klebsiella* strains that produce extended-spectrum β-lactamase (ESBL; MIC_{90s} = 4 and 8 µg/mL, respectively) and of indole-positive *Proteae* (MIC₉₀ = 0.25 µg/ml). Cefepime inhibits the growth of pneumococci strains (MICs = 0.5-2 mg/l) *in vitro* and *in vivo* in a mouse model of peritonitis (ED_{50s} = 0.6-1.14 mg/kg).³ Formulations containing cefepime have been used in the treatment of a variety of bacterial infections.

References

1. Kessler, R.E. and Fung-Tomc, J. *Am. J. Med.* **100(6A)**, 13S-19S (1996).
2. Sader, H.S., Fritsche, T.R., and Jones, R.N. *Diagn. Microbiol. Infect. Dis.* **52(3)**, 265-273 (2005).
3. Knudsen, J.D., Fuursted, K., Frimodt-Møller, N., et al. *J. Antimicrob. Chemother.* **40(5)**, 679-686 (1997).

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.

WARRANTY AND LIMITATION OF REMEDY

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM