

PRODUCT INFORMATION

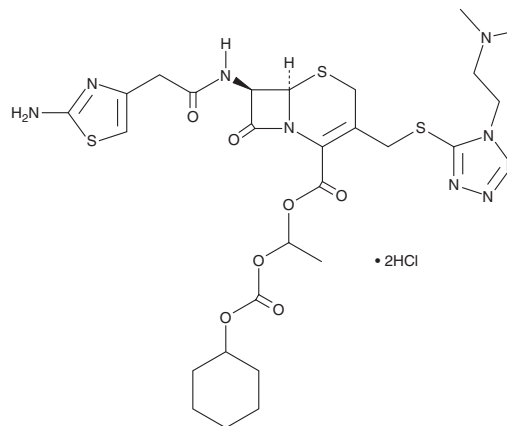


Cefotiam hexetil (hydrochloride)

Item No. 39538

CAS Registry No.: 95789-30-3
Formal Name: (6R,7R)-7-[[2-(2-amino-4-thiazolyl)acetyl]amino]-3-[[[1-[2-(dimethylamino)ethyl]-1H-tetrazol-5-yl]thio]methyl]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 1-[[[(cyclohexyloxy)carbonyl]oxy]ethyl ester, dihydrochloride

Synonyms: CTM-HE, SCE 2174
MF: C₂₇H₃₇N₉O₇S₃ • 2HCl
FW: 768.8
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

Cefotiam hexetil (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the cefotiam hexetil (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Cefotiam hexetil (hydrochloride) is soluble (≥10 mg/ml) in DMSO and ethanol.

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 cefotiam hexetil (hydrochloride) can be prepared by directly dissolving the solid in aqueous buffers. Cefotiam hexetil (hydrochloride) is soluble (≥10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

Cefotiam hexetil is a pan-selenoprotein inhibitor and prodrug form of the cephalosporin antibiotic cefotiam (Item No. 32871).^{1,2} It inhibits glutathione peroxidase 1 (GPX1), GPX4, and thioredoxin reductase 1 (TrxR1) in cell-free assays when used at concentrations ranging from 10 to 100 μM.²

References

1. Nishimura, T., Yoshimura, Y., Miyake, A., *et al.* Orally active 1-(cyclohexyloxy)alkyl ester prodrugs of cefotiam. *J. Antibiot. (Tokyo)* **40**(1), 81-90 (1987).
2. Cheff, D.M., Cheng, Q., Guo, H., *et al.* Development of an assay pipeline for the discovery of novel small molecule inhibitors of human glutathione peroxidases GPX1 and GPX4. *Redox Biol.* **63**:102719, (2023).

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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