

PRODUCT INFORMATION



Meropenem (hydrate)

Item No. 16068

CAS Registry No.: 119478-56-7
Formal Name: (4R,5S,6S)-3-[[[(3S,5S)-5-[(dimethylamino)carbonyl]-3-pyrrolidinyl]thio]-6-[(1R)-1-hydroxyethyl]-4-methyl-7-oxo-1-azabicyclo[3.2.0]hept-2-ene-2-carboxylic acid, trihydrate

Synonyms: ICI 194660, SM-7338

MF: C₁₇H₂₅N₃O₅S • 3H₂O

FW: 437.5

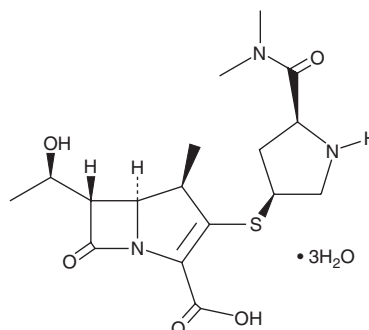
Purity: ≥98%

UV/Vis.: λ_{max}: 306 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

Meropenem (hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the meropenem (hydrate) in the solvent of choice, which should be purged with an inert gas. Meropenem (hydrate) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of meropenem (hydrate) in these solvents is approximately 30 mg/ml.

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 meropenem (hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of meropenem (hydrate) in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Meropenem is a carbapenem antibiotic.¹ It is active against clinical isolates of Gram-positive and Gram-negative bacteria *in vitro*, including *S. pneumoniae*, *H. influenzae*, *N. gonorrhoeae*, *E. coli*, *P. aeruginosa*, *C. difficile*, and methicillin-susceptible and -resistant *S. aureus* (MICs = ≤0.008-8 µg/ml). It is protective against *S. aureus*, *S. pneumoniae*, *E. coli*, *S. marcescens*, *P. mirabilis*, and *P. aeruginosa* infections in mice with 50% protective dose (PD₅₀) values of 0.13, 0.01, 0.04, 0.07, 0.84, and 0.46 mg/kg, respectively.² Formulations containing meropenem have been used in the treatment of a variety of bacterial infections.

References

1. Edwards, J.R., Turner, P.J., Wannop, C., *et al.* *In vitro* antibacterial activity of SM-7338, a carbapenem antibiotic with stability to dehydropeptidase I. *Antimicrob. Agents Chemother.* **33**(2), 215-222 (1989).
2. Edwards, J.R., Williams, S., and Nairn, K. Therapeutic activity of meropenem in experimental infections. *J. Antimicrob. Chemother.* **24** (Suppl. A), 279-285 (1989).

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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 09/22/2022

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