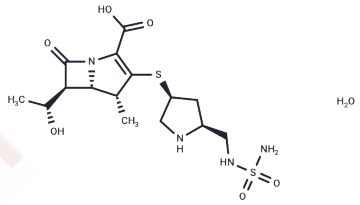
Data Sheet (Cat.No.T1037)

TargetMol

Doripenem monohydrate

Chemical Properties



CAS No. : 364622-82-2

Formula: C15H24N4O6S2·H2O

Molecular Weight: 438.52

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Doripenem monohydrate (S 4661 monohydrate) is a broad-spectrum injectable antibiotic, used for Gram-positive, Gram-negative and anaerobic pathogens.
Targets(IC50)	Antibacterial,Antibiotic
In vitro	Doripenem is active against Aeromonas (MIC50, 0.03 mg/L), Bacillus spp. (MIC50, 0.03 mg/L) and all tested anaerobic species (MIC range, or =0.015-4 mg/L), but is less active against S. maltophilia (MIC90, >32 mg/L) and Enterococcus faecium (MIC90, >32 mg/L) among the enterococcal species. [1] Doripenem is the most active carbapenem (MIC90, 1 to 4 mg/mL) against penicillin-resistant streptococci. [2] Doripenem is found to be highly active against oxacillin-susceptible Staphylococcus aureus and coagulase-negative staphylococci (2705 and 297 isolates, respectively; MIC90s 0.06 mg/L), with a potency greater than that of other carbapenem antibiotics. Doripenem is among the most potent agents tested against Streptococcus pneumoniae, viridans group streptococci and beta-haemolytic streptococci (885, 140 and 397 isolates; MIC(90)s 0.5, 0.5 and 0.03 mg/L, respectively). Doripenem is also active against Citrobacter spp., Enterobacter spp. and Serratia spp. (MIC90s 0.06-0.25 mg/L), including ceftazidime-resistant isolates. Doripenem is slightly more potent (MIC50 2 mg/L) than ertapenem and imipenem (MIC50 4 mg/L), and has a potency similar to that of meropenem (MIC50 2 mg/L), against Burkholderia cepacia (20 isolates). [3] Doripenem demonstrates in vitro activity similar to that of meropenem against gram-negative pathogens and to that of imipenem against gram-positive pathogens. [4]

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 34 mg/mL (77.53 mM),Sonication is recommended. H2O: 24 mg/mL (54.73 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2.5 mg/mL (5.7 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2804 mL	11.402 mL	22.804 mL
5 mM	0.4561 mL	2.2804 mL	4.5608 mL
10 mM	0.228 mL	1.1402 mL	2.2804 mL
50 mM	0.0456 mL	0.228 mL	0.4561 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Jones RN, et al. J Antimicrob Chemother, 2004, 54(1), 144-154.
Jones RN, et al. Antimicrob Agents Chemother, 2004, 48(8), 3136-3140.
Fritsche TR, et al. Clin Microbiol Infect, 2005, 11(12), 974-984.
Ge Y, et al. Antimicrob Agents Chemother, 2004, 48(4), 1384-1396.