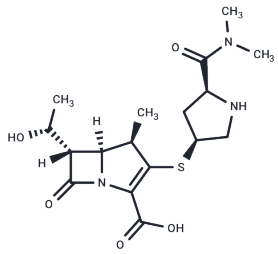
Data Sheet (Cat.No.T0224)

TargetMol

Meropenem

Chemical Properties



CAS No. : 96036-03-2

Formula: C17H25N3O5S

Molecular Weight: 383.46

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	Meropenem (SM 7338) is a broad-spectrum carbapenem antibiotic administered intravenously for severe bacterial infections caused by sensitive agents. It commonly causes mild, transient aminotransferase elevations and can rarely lead to clinically apparent cholestatic liver injury.
Targets(IC50)	Antibacterial,Antibiotic
In vitro	Meropenem significantly increases the urinary excretion of valproate-glucuronide in rabbits.
In vivo	Meropenem exhibits an antibacterial spectrum similar to that of imipenem, but demonstrates slightly lower activity against Staphylococcus aureus and Enterococcus. It possesses enhanced activity against Pseudomonas aeruginosa, all Enterobacteriaceae, and Haemophilus influenzae. Meropenem's antimicrobial efficacy against Gram-negative organisms is two to four times greater than that of imipenem, and it has a broader spectrum in comparison to all other tested agents. Furthermore, Meropenem exhibits an antagonistic effect when combined with several beta-lactam antibiotics against strain-producing type I cephalosporins. It binds most effectively to the penicillin-binding proteins 2 of Escherichia coli and Pseudomonas aeruginosa, and to the penicillin-binding protein 1 of Staphylococcus aureus.
Kinase Assay	Complementation of SCR7 Inhibition with Puri?ed Ligase IV: Complementation experiment is carried out by adding increasing concentrations of puri?ed Ligase IV/XRCC4 complex (30, 60, and 120 fmol) along with the oligomeric DNA substrates (5' compatible and 5'-5' noncompatible ends) to the SCR7-treatedextracts. Reactions are incubated for 2 h at 25°C. The reaction products are then resolved on 8% denaturing PAGE. The gel is dried and exposed and the signal is detected with a PhosphorImager and analyzed with Multi Gauge (V3.0) software.

Solubility Information

Solubility	DMSO: 100 mg/mL (260.78 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), H2O: 5 mg/mL (13.04 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: 4 mg/mL (10.43 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	2.6078 mL	13.0392 mL	26.0783 mL
5 mM	0.5216 mL	2.6078 mL	5.2157 mL
10 mM	0.2608 mL	1.3039 mL	2.6078 mL
50 mM	0.0522 mL	0.2608 mL	0.5216 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

Edwards JR, et al. J Antimicrob Chemother, 1995, 36 Suppl A, 1-17.
Yang K, Li H Z, Zhu X, et al. Rapid Antibiotic Susceptibility Testing of Pathogenic Bacteria Using Heavy Water-Labeled Single-Cell Raman Spectroscopy in Clinical Samples. Analytical chemistry. 2019 May 7;91(9):6296-6303.
Sun J, Ren S, Yang Y, et al.Betaxolol as a Potent Inhibitor of NDM-1-Positive E. coli That Synergistically Enhances the Anti-Inflammatory Effect in Combination with Meropenem.International Journal of Molecular Sciences.2023, 24 (17): 13399.
Jones RN, et al. J Antimicrob Chemother, 1989, 24 Suppl A, 9-29.
Yang Y et al. J Antimicrob Chemother, 1995, 35(1), 75-84.
Drusano GL, et al. Scand J Infect Dis Suppl, 1995, 96, 11-16.
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