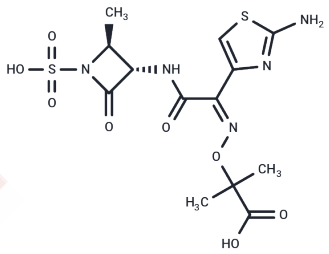
Data Sheet (Cat.No.T1029)

TargetMol

Aztreonam

Chemical Properties



CAS No. : 78110-38-0

Formula: C13H17N5O8S2

Molecular Weight: 435.43

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Aztreonam (SQ-26,776), a monocyclic beta-lactam antibiotic originally isolated from Chromobacterium violaceum, possesses bactericidal activity.
Targets(IC50)	Antibacterial,Antibiotic
In vitro	Aztreonam causes significant suppression of human colony forming unit-erythroid (cfu-e), burst forming unit-erythroid (bfu-e) and colony forming unit-granulocyte macrophage (cfu-gm) at both peak and trough serum concentrations in human bone marrow cells. [1] Aztreonam is hydrolyzed at measurable rates by class A beta-lactamases, a TEM-2 type penicillinase and the Proteus vulgaris cephalosporinase with a broad substraterange. Aztreonam is extremely stable as to the typical class C cephalosporinase of Citrobacter freundii, and acts as a competitive and progressive inhibitor for the beta-lactamase. [2] Aztreonam (AZT) combined with clindamycin (CLDM) has synergistic effects on Staphylococcus aureus, Staphylococcus epidermidis, Streptococcus pneumoniae, and Haemophilus influenzae, which are sensitive or quasi-sensitive to CLDM, in the presence of CLDM at MIC or sub-MIC. [3] Aztreonam reduces the cfu of some strains by 1 log unit without preserving the integrity of cystic fibrosis airway cell monolayers, while decreasing the biofilms of other clinical isolates by 4 log units and protecting the monolayers from being compromised. [4]
In vivo	Aztreonam (300 mg/kg) results in a significant decrease in the content of hepatic microsomal P450, while no significant change is observed in hepatic cytochrome b5 content and NADPH-cytochrome c (P450) reductase activity. [5]

Solubility Information

Solubility	H2O: 9 mg/mL (20.67 mM),Sonication is recommended. DMSO: 50 mg/mL (114.83 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2966 mL	11.4829 mL	22.9658 mL
5 mM	0.4593 mL	2.2966 mL	4.5932 mL
10 mM	0.2297 mL	1.1483 mL	2.2966 mL
50 mM	0.0459 mL	0.2297 mL	0.4593 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.

Reference

Charak BS, et al. J Antimicrob Chemother,1991, 27(1), 95-104.
Sakurai Y, et al. J Antibiot (Tokyo), 1990, 43(4), 403-410.
Deguchi K, et al. Jpn J Antibiot, 1991, 44(5), 529-537.
Yu Q, et al. J Antimicrob Chemother,2012, 67(11), 2673-2681.
Ohmori S, et al. Pharmacology,1994, 48(3), 137-142.