

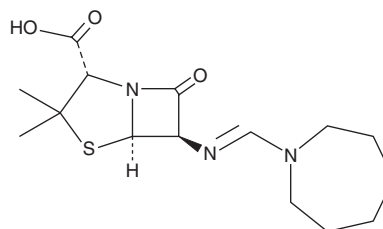
PRODUCT INFORMATION



Mecillinam

Item No. 9002008

CAS Registry No.: 32887-01-7
Formal Name: (2S,5R,6R)-6-[[[(hexahydro-1H-azepin-1-yl)methylene]amino]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid
Synonyms: Amdinocillin, FL 1060, Penicillin Hx
MF: C₁₅H₂₃N₃O₃S
FW: 325.4
Purity: ≥95%
UV/Vis.: λ_{max}: 221 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

Mecillinam is supplied as a crystalline solid. A stock solution may be made by dissolving the mecillinam in the solvent of choice, which should be purged with an inert gas. Mecillinam is soluble in the organic solvent chloroform at a concentration of approximately 30 mg/ml.

Description

Mecillinam is a β-lactam antibiotic.¹ It is active against Gram-negative bacteria, including *E. coli*, *K. pneumoniae*, and *N. gonorrhoeae* (MIC_{90S} = 4, 8, and 1 μg/ml, respectively). It is also active against clinical isolates of *E. coli*, *K. pneumoniae*, and *P. mirabilis* isolated from human urine.² It binds to *K. pneumoniae* penicillin-binding protein 2 (PBP2) over PBP1A/B, PBP3, PBP4, and PBP5/6 (IC_{50S} = <0.0075, >256, 128, >256, and >256 mg/L, respectively) in a competitive binding assay.³ Mecillinam is efficacious against susceptible *E. coli* strains in a systemic mouse model of infection with 50% protective dose (PD₅₀) values ranging from less than or equal to 0.39 to 6.4 mg/kg.⁴

References

1. Neu, H.C. Amdinocillin: A novel penicillin. Antibacterial activity, pharmacology and clinical use. *Pharmacotherapy* **5**(1), 1-10 (1985).
2. Fuchs, F. and Hamprecht, A. Results from a prospective *in vitro* study on the mecillinam (amdinocillin) susceptibility of *Enterobacteriales*. *Antimicrob. Agents Chemother.* **63**(4), e02402-18 (2019).
3. Sutaria, D.S., Moya, B., Green, K.B., *et al.* First penicillin-binding protein occupancy patterns of β-lactams and β-lactamase inhibitors in *Klebsiella pneumoniae*. *Antimicrob. Agents Chemother.* **62**(6), e00282-18 (2018).
4. Anderson, J.D., Eftekhari, F., Cleeland, R., *et al.* Comparative activity of mecillinam and ampicillin singly and in combination in the urinary bladder model and experimental mouse model. *J. Antimicrob. Chemother.* **8**(2), 121-131 (1981).

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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