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PRODUCT INFORMATION



azobactam (sodium salt)

Item No. 17185

CAS Registry No.: 89785-84-2

Formal Name: 4,4-dioxide 3-methyl-7-oxo-3-(1H-1,2,3-triazol-1-ylmethyl)-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, monosodium salt

Synonyms: CL-307579, YTR 830

MF: $C_{10}H_{11}N_4O_5S \cdot Na$

FW: 322.3

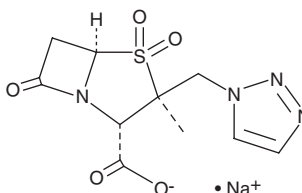
Purity: $\geq 95\%$

UV/Vis.: λ_{max} : 212 nm

Supplied as: A crystalline solid

Storage: $-20^{\circ}C$

Stability: ≥ 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Tazobactam (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the tazobactam (sodium salt) in the solvent of choice. Tazobactam (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of tazobactam (sodium salt) in these solvents is approximately 5, 20, and 25 mg/ml, respectively.

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 tazobactam (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of tazobactam (sodium salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Tazobactam is a β -lactamase inhibitor with greater activity against Ambler class A serine penicillinases and class C cephalosporinases, including TEM-1, SHV-1, and P99 (IC_{50} s = 97, 150, and 8.5 nM) than class B metallo- β -lactamases and the class D oxacillinase OXA-1 (IC_{50} s = 400,000 and 1,400 nM, respectively).¹ However, it also inhibits the class D oxacillinase OXA-2 (IC_{50} = 10 nM). Tazobactam, in combination with piperacillin, is active against Gram-positive (MIC_{90} s = 2-128 μ g/ml) and Gram-negative bacteria (MIC_{90} s = 4-128 μ g/ml).² In a neutropenic mouse model of thigh infection, tazobactam potentiates the activity of ceftolozane against Enterobacteriaceae.² Formulations containing tazobactam, alone and in combination with piperacillin, have been used in the treatment of β -lactamase-producing bacteria.

References

1. Drawz, S.M. and Bonomo, R.A. *Clin. Microbiol. Rev.* **23**(1), 160-201 (2010).
2. Jones, R.N., Pfaller, M.A., Fuchs, P.C., et al. *Diagn. Microbiol. Infect. Dis.* **12**(6), 489-494 (1989).
2. Craig, W.A. and Andes, D.R. *Antimicrob. Agents Chemother.* **57**(4), 1577-1582 (2013).

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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