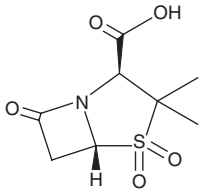
PRODUCT INFORMATION

Sulbactam

Item No. 15024

CAS Registry No.: 68373-14-8
Formal Name: (2S,5R)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 4,4-dioxide
Synonyms: CP 45,899, Penicillanic Acid Dioxide
MF: $C_8H_{11}NO_5S$
FW: 233.2
Purity: ≥98%
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

Sulbactam is supplied as a crystalline solid. A stock solution may be made by dissolving the sulbactam in the solvent of choice, which should be purged with an inert gas. Sulbactam is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of sulbactam in these solvents is approximately 30 mg/ml.

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 sulbactam can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of sulbactam in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Sulbactam is a penicillanic acid sulfone that acts as an irreversible inhibitor of β-lactamases.[1] It is effective against a wide variety of serine β-lactamases produced by common Gram-negative and Gram-positive aerobes and anaerobes.[2-4] However, it is not effective against metallo-β-lactamases, cephalosporinases, or oxacillinases.[4]

References

1. Bush, K. β-Lactamase inhibitors from laboratory to clinic. *Clin. Microbiol. Rev.* **1(1)**, 109-123 (1988).
2. Williams, J.D. β-Lactamase inhibition and in vitro activity of sulbactam and sulbactam/cefoperazone. *Clin. Infect. Dis.* **24(3)**, 494-497 (1997).
3. Chaïbi, E.B., Sirot, D., Paul, G., *et al.* Inhibitor-resistant TEM β-lactamases: Phenotypic, genetic and biochemical characteristics. *J. Antimicrob. Chemother.* **43(4)**, 447-458 (1999).
4. Drawz, S.M. and Bonomo, R.A. Three decades of β-lactamase inhibitors. *Clin. Microbiol. Rev.* **23(1)**, 160-201 (2010).

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