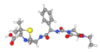
Product Data Sheet

Product Name: Piperacillin
Cat. No.: GD20400

Chemical Properties

Cas. No.	61477-96-1		
Formula	$C_{23}H_{27}N_5O_7S$	M.Wt	517.55
Solubility	DMSO : 100 mg/mL (193.22 mM; Need ultrasonic)	Storage	Store at 2-8°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Background

Piperacillin is a semisynthetic broad-spectrum 尾-lactam antibiotic which exhibits potent bactericidal activity against Gram-negative bacteria as well as select Gram-positive strains through penicillin-binding proteins. Piperacillin is most commonly used in combination with the 尾-lactamase inhibitor Tazobactam.

Piperacillin (12.5 渭g/mL, 24h) inhibits 92% of isolates of *Pseudomonas aeruginosa*, 82% of *Serratia marcescens*, 73% of *Escherichia coli*, 61% of *Klebsiella spp*, and 42% of *Enterobacter spp*, most *Proteus spp.* were extremely susceptible. Piperacillin fails to inhibit the growth of gram-negative bacilli when large inocula were used (minimum inhibitory concentration > 25 渭g/ml) [2].

Piperacillin (100 mg/kg, i.v., 4 times a day, 5 d) in combination with Tazobactam (12.5 mg/kg, i.v., 4 times a day, 5 d) prolongs survival in mice with low inoculum of *K. pneumoniae*[3].

[1]. Fu KP, et al. Piperacillin, a new penicillin active against many bacteria resistant to other penicillins. Antimicrob Agents Chemother. 1978锛?3(3):358-67.

Caution: Product has not been fully validated for medical applications. For research use only.
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[2]. Bodey GP, et al. Piperacillin: In Vitro Evaluation. Antimicrob Agents Chemother. 1978锛?4(1):78-87.

[3]. Harada Y, et al. In vitro and in vivo activities of piperacillin-tazobactam and meropenem at different inoculum sizes of ESBL-producing Klebsiella pneumoniae. Clin Microbiol Infect. 2014锛?0(11):O831-9.

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