

Product Data Sheet

Product Name: Zidebactam sodium salt

Cat. No.: GC34871

Chemical Properties

Cas. No. 1706777-46-9

SMILES O=C([C@@H]1CCCNC1)NNC([C@@H]2CC[C@@H]3C[N@]2C(N3OS(=O)(O[Na])=O)=O)=O

Formula $C_{13}H_{20}N_5NaO_7S$

M.Wt

413.38

Solubility Soluble in DMSO

Storage

Store at -20°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

Zidebactam is a penicillin-binding protein 2 (PBP2) inhibitor and β -lactam antibiotic enhancer.¹ It inhibits *P. aeruginosa* PBP2 ($IC_{50} = 0.26 \mu\text{g/ml}$) and is selective for PBP2 over PBP1a, -1b, -3, -4, and -5/6 ($IC_{50}s = >4 \mu\text{g/ml}$ for all). Zidebactam enhances the bactericidal activity of cefepime against multidrug-resistant strains of *P. aeruginosa*, as well as against *E. coli*, *Klebsiella*, *Enterobacter*, *S. marcescens*, and *A. baumannii*.² *In vivo*, zidebactam enhances cefepime-induced reductions in bacterial loads in mouse models of *K. pneumoniae*-induced peritonitis and thigh infection.³ Formulations containing zidebactam in combination with cefepime have been used in the treatment of various bacterial infections.

1. Moya, B., Barcelo, I.M., Bhagwat, S., et al. WCK 5107 (zidebactam) and WCK 5153 are novel inhibitors of PBP2 showing potent " β -lactam enhancer" activity against *Pseudomonas aeruginosa*, including multidrug-resistant metallo- β -lactamase-producing high-risk clones. *Antimicrob. Agents Chemother.* 61(6):e02529-02516 (2017).
2. Sader, H.S., Rhomberg, P.R., Flamm, R.K., et al. WCK 5222 (cefepime/zidebactam) antimicrobial

Caution: Product has not been fully validated for medical applications. For research use only.

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activity tested against Gram-negative organisms producing clinically relevant β -lactamases]. *Antimicrob. Chemother.* 72(6)1696-1703(2017) 3. Moya, B., Barcelo, I.M., Cabot, G., et al. In vitro and in vivo activities of β -lactams in combination with the novel β -lactam enhancers zidebactam and WCK 5153 against multidrug-resistant metallo- β -lactamase-producing *Klebsiella pneumoniae*. *Antimicrob. Agents Chemother.* 63(5)e00128-00119(2019)

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