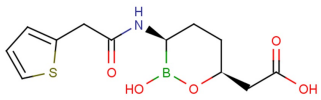
Data Sheet (Cat.No.T17210)

TargetMol
A DRUG SCREENING EXPERT

Vaborbactam

Chemical Properties



CAS No.:	1360457-46-0
Formula:	C12H16BNO5S
Molecular Weight:	297.14
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	Vaborbactam is an inhibitor of cyclic boronic acid pharmacophore β-lactamase.
Targets(IC_{50})	Others: None
In vitro	Vaborbactam is a broad spectrum of inhibition of β-lactamases, with particularly potent activity against KPC, CTX-M, SHV, and CMY enzymes. SM 7338-Vaborbactam with a fixed concentration of 8 μg/mL of the inhibitor (MIC50, ≤0.06 μg/mL for all organisms) inhibits 93.7% of the CPE isolates displaying elevated SM 7338 MICs at ≤1 μg/mL. Vaborbactam restores SM 7338 activity for 72.7 to 98.1% of CPE isolates at ≤2 μg/mL, and maximum potentiation is achieved with fixed concentrations of ≥8 μg/mL of the inhibitor (≥96.5% of isolates are inhibited at ≤2 μg/mL of SM 7338-Vaborbactam). By forming a reversible dative bond with the lactamase, Vaborbactam acts as a competitive inhibitor and is not hydrolyzed by the b-lactamase [1][2][3].
In vivo	Vaborbactam is well tolerated and has a half-life of 1.23 h [3].

Solubility Information

Solubility	H2O: 5.26 mg/mL (17.70 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.365 mL	16.827 mL	33.654 mL
5 mM	0.673 mL	3.365 mL	6.731 mL
10 mM	0.337 mL	1.683 mL	3.365 mL
50 mM	0.067 mL	0.337 mL	0.673 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Hecker SJ, et al. Discovery of a Cyclic Boronic Acid β-Lactamase Inhibitor (RPX7009) with Utility vs Class A Serine Carbapenemases. J Med Chem. 2015 May 14;58(9):3682-92.
2. Castanheira M, et al. Effect of the β-Lactamase Inhibitor Vaborbactam Combined with SM 7338 against Serine Carbapenemase-Producing Enterobacteriaceae. Antimicrob Agents Chemother. 2016 Aug 22;60(9):5454-8.
3. Wong D, et al. Novel Beta-Lactamase Inhibitors: Unlocking Their Potential in Therapy.

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