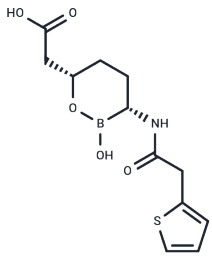
Data Sheet (Cat.No.T17210)

TargetMol

Vaborbactam

Chemical Properties



CAS No. : 1360457-46-0

Formula: C12H16BNO5S

Molecular Weight: 297.14

Storage: Store at low temperature,Store under nitrogen
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Vaborbactam (RPX7009) is a β-lactamase inhibitor that is often used in conjunction with meropenem to study pneumonia and CRE infections.
Targets(IC50)	Antibacterial
In vitro	The β-lactamase inhibitor vaborbactam can also form an acyl-enzyme complex with Pseudomonas aeruginosa PBP3. We found that vaborbactam inhibits PBP3 (IC50 of 262 μM), and its binding to PBP3 increases the protein thermal stability by about 2°C[1].
In vivo	In a neutropenic mouse thigh infection model, the administration of 100 mg/kg meropenem alone and in combination with various doses of vaborbactam against Klebsiella pneumoniae was evaluated. The results showed that intraperitoneal injection of 300 mg/kg meropenem combined with 50 mg/kg vaborbactam resulted in the greatest reduction in bacterial counts compared to the untreated control group[2].

Solubility Information

Solubility	H2O: 2 mg/mL (6.73 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.3654 mL	16.8271 mL	33.6542 mL
5 mM	0.6731 mL	3.3654 mL	6.7308 mL
10 mM	0.3365 mL	1.6827 mL	3.3654 mL
50 mM	0.0673 mL	0.3365 mL	0.6731 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Kumar V,et al. Structural analysis of the boronic acid β-lactamase inhibitor vaborbactam binding to Pseudomonas aeruginosa penicillin-binding protein 3. PLoS One. 2021 Oct 15;16(10):e0258359.
Sabet M,et al. Activity of Meropenem-Vaborbactam in Mouse Models of Infection Due to KPC-Producing Carbapenem-Resistant Enterobacteriaceae. Antimicrob Agents Chemother. 2017 Dec 21;62(1):e01446-17.