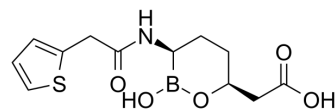


## Vaborbactam

Cat. No.:	HY-19930		
CAS No.:	1360457-46-0		
Molecular Formula:	C <sub>12</sub> H <sub>16</sub> BNO <sub>5</sub> S		
Molecular Weight:	297.14		
Target:	Bacterial		
Pathway:	Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

In Vitro	H <sub>2</sub> O : 5.26 mg/mL (17.70 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	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	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: PBS Solubility: 27.5 mg/mL (92.55 mM); Clear solution; Need ultrasonic				
	2. Add each solvent one by one: 108 mM sodium carbonate Solubility: 25 mg/mL (84.14 mM); Clear solution; Need ultrasonic				
	3. Add each solvent one by one: 5% DMSO >> 40% PEG300 >> 5% Tween-80 >> 50% saline Solubility: ≥ 2.62 mg/mL (8.82 mM); Clear solution				
	4. Add each solvent one by one: 5% DMSO >> 95% (20% SBE-β-CD in saline) Solubility: ≥ 2.62 mg/mL (8.82 mM); Clear solution				

### BIOLOGICAL ACTIVITY

Description	Vaborbactam (RPX7009) is a cyclic boronic acid pharmacophore β-lactamase inhibitor.
In Vitro	Vaborbactam is a broad spectrum of inhibition of β-lactamases, with particularly potent activity against KPC, CTX-M, SHV, and CMY enzymes <sup>[1]</sup> . 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). SM 7338-vaborbactam with a fixed concentration of 8 µg/mL of the inhibitor (MIC<sub>50</sub>, ≤0.06 µg/mL for all organisms) inhibits 93.7% of the CPE isolates displaying elevated SM 7338 MICs at ≤1 µg/mL<sup>[2]</sup>. By forming a reversible dative bond with the blactamase, vaborbactam acts as a competitive inhibitor and is not hydrolyzed by the b-lactamase<sup>[3]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

Vaborbactam is well tolerated and has a half-life of 1.23 h, and steadystate volume of distribution of 21.0 L in subjects<sup>[3]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- J Med Chem. 2021 Jul 31.
- J Clin Microbiol. 2020 Aug 24;58(9):e00932-20.
- J Antimicrob Chemother. 2021 May 6;dkab141.
- J Antimicrob Chemother. 2021 Feb 11;76(3):653-658.
- Antimicrob Agents Chemother. 2020 Nov 17;64(12):e00297-20.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

[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.

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

#### India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444

Email: [customerservice@lifetechindia.com](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)