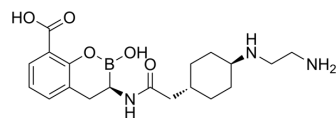


Taniborbactam

Cat. No.:	HY-109124
CAS No.:	1613267-49-4
Molecular Formula:	C ₁₉ H ₂₈ BN ₃ O ₅
Molecular Weight:	389.25
Target:	Bacterial; Beta-lactamase
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Taniborbactam (VNRX-5133) is a reversible and selective boronic acid-containing pan-spectrum β -lactamase inhibitor with IC ₅₀ s of 8-530 nM. Taniborbactam has IC ₅₀ s of 30 nM, 32 nM, 42 nM, 20 nM for KPC-2, AmpC, OXA-48, and VIM-2. Taniborbactam is against Gram-negative bacteria ^{[1][2]} .
IC₅₀ & Target	β -lactamase ^[1]
In Vitro	Taniborbactam (VNRX-5133) has IC ₅₀ s of 0.5 nM, 2 nM, 0.5 nM, 0.06 nM for KPC-2, OXA-48, VIM-4 of K.pneumoniae strain and VIM-2 of P.aeruginosa strain ^[2] . Both cefepime/Taniborbactam (10 μ g/mL) and meropenem/Taniborbactam combinations are highly active against all six of the NDM-1-producing clinical isolates from K.pneumoniae and E.coli, with MIC ranges of 16-0.25 and 1-0.125 μ g/mL, respectively ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	A single dose of cefepime (32 mg/kg)/Taniborbactam (VNRX-5133; 16 mg/kg; s.c.) achieves >4 log ₁₀ reduction in viable bacterial counts in the neutropenic mouse lung infection model against a CTX-M-14-producing strain of K.pneumoniae ^[2] . Combination of Cefepime (16 mg/kg) and Taniborbactam (16 mg/kg; s.c.; twice-a-day for 7 days) demonstrates >2 log ₁₀ reductions in viable bacterial counts in the kidney of the ascending urinary tract infection model against a CTX-M-15-producing strain of E.coli ^[2] . Taniborbactam has a T _{1/2} of 0.16 hours, a CL of 618 mL/h/kg, and a V _{ss} of 143 mL/kg for mice ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Int J Antimicrob Agents. 2023 Nov 4:107030.
- J Antimicrob Chemother. 2023 Mar 15;dkad061.
- Antimicrob Agents Chemother. 2023 May 31;e0033923.
- Antimicrob Agents Chemother. 2021 Nov 22;AAC0167621.

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REFERENCES

[1]. Krajnc A, et al. Bicyclic Boronate VNRX-5133 Inhibits Metallo- and Serine- β -Lactamases. J Med Chem. 2019 Sep 26;62(18):8544-8556.

[2]. Liu B ,et al. Discovery of Taniborbactam (VNRX-5133): A Broad-Spectrum Serine- and Metallo- β -lactamase Inhibitor for Carbapenem-Resistant Bacterial Infections. J Med Chem. 2019 Dec 16.

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

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