

Metallo- β -lactamase-IN-6

Chemical Properties

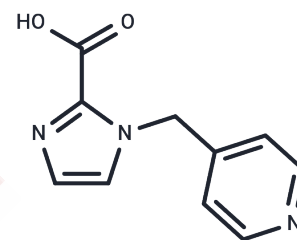
CAS No. : 1439899-44-1

Formula: C₁₀H₉N₃O₂

Molecular Weight: 203.2

Storage: 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	Metallo- β -lactamase-IN-6 is a highly effective inhibitor of VIM-Type metallo- β -lactamase, demonstrating IC ₅₀ values of 0.56 μ M, 29.50 μ M, and 5.78 μ M for VIM-2, VIM-1, and VIM-5, respectively. Additionally, Metallo- β -lactamase-IN-6 exhibits potent synergistic antibacterial properties when combined with Meropenem, particularly against engineered Escherichia coli strains and clinically isolated Pseudomonas aeruginosa carrying the VIM-2 MBL gene [1].
Targets(IC50)	Others,Antibacterial
In vitro	Metallo- β -lactamase-IN-6 (compound 55) (10 μ M; 18-20 hours) enhances Meropenem's efficacy against VIM-2 mediated antibacterial resistance, evidenced by FIC index values of 0.05 [1]. At concentrations of 1, 10, and 100 μ M over 18-20 hours, it breaches the E. coli outer membrane, revitalizing Meropenem's action against PBP3 by neutralizing the VIM-2 enzyme's adverse impact [1]. Furthermore, at 100 μ M, it boosts Meropenem's antibacterial potency against PA W35, indicated by FIC index values of 0.25 [1].
In vivo	Administered intraperitoneally at a single dose of 100 mg/kg, Metallo- β -lactamase-IN-6 reaches a peak plasma concentration of approximately 142.8 μ g/mL around 9 minutes post-injection, with a half-life of 1.24 hours, indicating swift systemic availability and moderate persistence in the body [1]. When administered as a single intraperitoneal dose of 500, 1000, or 2000 mg/kg, Metallo- β -lactamase-IN-6 displayed no significant toxic effects and was well-tolerated in female ICR mice up to the highest tested dose of 2000 mg/kg over a 14-day observation period. These findings suggest that Metallo- β -lactamase-IN-6 is quickly absorbed and metabolized, with a favorable safety profile in the tested mouse model [1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.9213 mL	24.6063 mL	49.2126 mL
5 mM	0.9843 mL	4.9213 mL	9.8425 mL
10 mM	0.4921 mL	2.4606 mL	4.9213 mL
50 mM	0.0984 mL	0.4921 mL	0.9843 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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