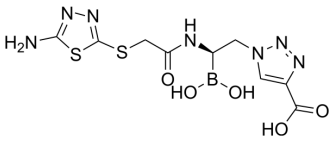
MB076

Cat. No.:	HY-155011
CAS No.:	2832966-95-5
Molecular Formula:	$C_9H_{12}BN_7O_5S_2$
Molecular Weight:	373.18
Target:	Others
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	MB076 is a novel heterocyclic triazole with improved plasma stability. MB076 inhibits seven different Class C Acinetobacter-derived cephalosporinases (ADCs) β-lactamase variants with K_i values ⊠ 1 μM. MB076 acts synergistically in combination with multiple cephalosporins to restore pBCSK(−) susceptibility[1].
IC_{50} & Target	Ki Target: ADC-7, ADC-30, ADC-162, ADC-33, ADC-219, ADC-212[1] Ki: 0.21±0.016 μM (ADC-7), 0.058±0.005μM (ADC-30), 0.79±0.039μM (ADC-162), 0.10±0.004μM (ADC-33), 0.11±0.019 (ADC-219), 0.61±0.038μM (ADC-212)[1]
In Vitro	MB076 (compound B) (0.5-5 μM, 48 h) has an improved stability in human plasma[1]. MB076 (10 μg/mL, 48 h) acts synergistically in combination with Ceftazidime (CAZ, HY-B0593), and Cefotaxime (CTX, HY-A0088A) to restore pBCSK(−) susceptibility[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	Human Plasma
Concentration:	0.5 μM, 1 μM, 2.5 μM, 4 μM, 5 μM
Incubation Time:	48 h
Result:	Showed excellent stability in human plasma, with a $t_{1/2}$ value of 29 h, notably higher than the value obtained for ADC-7/S02030 (PDB4U0X) (9 h).

REFERENCES

[1]. Rachel A. Powers, et al. Synthesis of a Novel Boronic Acid Transition State Inhibitor, MB076: A Heterocyclic Triazole Effectively Inhibits Acinetobacter-Derived Cephalosporinase Variants with an Expanded-Substrate Spectrum. J Med Chem. 2023 Jul 13; 66(13): 8510–8525.

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

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