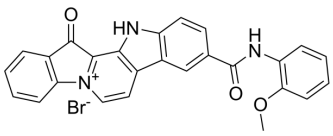
FtsZ-IN-7

Cat. No.:	HY-149225
Molecular Formula:	$C_{26}H_{18}BrN_3O_3$
Molecular Weight:	500.34
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

FtsZ-IN-7 is a potent FtsZ inhibitor, to promote FtsZ polymerization and inhibit GTPase activity of FtsZ. Thus, FtsZ-IN-7 inhibits bacterial division to lead to death of bacterial cells. FtsZ-IN-7 shows bactericidal activity with no significant tendency to trigger bacterial resistance as well as rapid bactericidal properties. And FtsZ-IN-7 shows low hemolytic activity and cytotoxicity to mammalian cells[1].

In Vitro

FtsZ-IN-7 (compound B8) inhibits the tested Gram-positive bacteria including methicillin-resistant S. aureus (MRSA) (MIC=0.049 μg/mL), B. subtilis (MIC=0.024 μg/mL) and S. pneumoniae (MIC=0.049 μg/mL)[1].
FtsZ-IN-7 (1-4× MIC; 0-24 h) inhibits bacterial grwoth. And FtsZ-IN-7 (4× MIC; 4 h) disturbs the cell surface of MRSA ATCC43300, with notable wrinkling and filamentation on their surfaces[1].
FtsZ-IN-7 (4 μg/mL; 10 min; 25 ⊠) promotes FtsZ polymerization and (0.02-0.64 μg/mL; 30 min) inhibits the GTPase activity of FtsZ dose-dependently[1].
FtsZ-IN-7 (12.5 μg/mL; 1 h; 37 ⊠) revealing the negligible hemolytic activity against human erythrocytes RAW264.7 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	MRSA ATCC43300
Concentration:	1 × , 2 × , 4 × MIC; MIC=0.049 μg/mL
Incubation Time:	0 h, 0.5 h, 1 h, 1.5 h, 2 h, 4 h, 6 h, 8 h, 12 h, 22 h, and 24 h
Result:	Inhibited the growth of bacteria, and more fast compared with Vancomycin (HY-B0671).

REFERENCES

[1]. Qiu H, et al. Design and synthesis of fascaplysin derivatives as inhibitors of FtsZ with potent antibacterial activity and mechanistic study. Eur J Med Chem. 2023 Jun 5;254:115348.

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

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