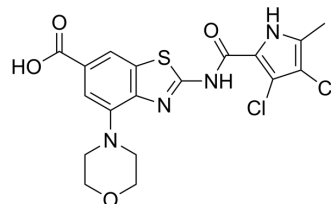


DNA Gyrase-IN-6

Cat. No.:	HY-149925
Molecular Formula:	C ₁₈ H ₁₆ Cl ₂ N ₄ O ₄ S
Molecular Weight:	455.32
Target:	Bacterial; DNA/RNA Synthesis; Topoisomerase
Pathway:	Anti-infection; Cell Cycle/DNA Damage
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Antibacterial agent 138 is a benzothiazole inhibitor of bacterial DNA gyrase and topoisomerase IV. Antibacterial agent 138 exhibits favorable solubility and plasma protein binding. Antibacterial agent 138 has antibacterial activity against Gram-positive and Gram-negative strains. Antibacterial agent 138 is a dual GyrB and ParE inhibitor ^[1] .
IC₅₀ & Target	DNA gyrase, Topoisomerase IV ^[1]
In Vitro	Antibacterial agent 138 (compound 7a) inhibits DNA gyrase and topoisomerase IV from <i>S. aureus</i> (IC ₅₀ =1.22 nM and 8.0 nM, respectively), <i>E. coli</i> (IC ₅₀ <10 nM and 44 nM, respectively), <i>A. baumannii</i> (IC ₅₀ =2.42 nM and 119.7 nM, respectively), and <i>P. aeruginosa</i> (IC ₅₀ <10 nM and 27.5 nM, respectively) with low nanomolar ranges ^[1] . Antibacterial agent 138 (up to 100 μM) shows no cytotoxicity on a breast cancer MCF-7 cell line and a liver cancer HepG2 cell ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Antibacterial agent 138 (compound 7a) (25 and 50 mg/kg; iv; single dose) shows bactericidal activity in neutropenic mouse thigh infection model ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Durcik M, et al. New Dual Inhibitors of Bacterial Topoisomerases with Broad-Spectrum Antibacterial Activity and In Vivo Efficacy against Vancomycin-Intermediate *Staphylococcus aureus*. *J Med Chem.* 2023 Mar 23;66(6):3968-3994.

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

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