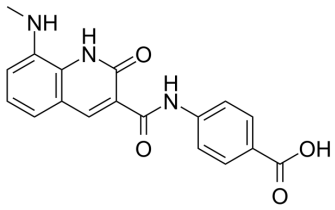
Type II topoisomerase inhibitor 1

Cat. No.:	HY-150044
CAS No.:	2245691-60-3
Molecular Formula:	$C_{18}H_{15}N_3O_4$
Molecular Weight:	337.33
Target:	DNA/RNA Synthesis; Topoisomerase; Bacterial
Pathway:	Cell Cycle/DNA Damage; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Type II topoisomerase inhibitor 1 is a potent and selective E. coli DNA gyrase inhibitor (IC_{50}: 1.7 nM), and forms hydrogen bonds with Asp73 residue. Type II topoisomerase inhibitor 1 inhibits topoisomerase IV activity (IC_{50}: 0.98 μM). Type II topoisomerase inhibitor 1 can be used in the research of antibacterial area[1][2].

IC_{50} & Target	topoisomerase IV 0.98 μM (IC_{50})	DNA gyrase 1.7 nM (IC_{50})

In Vitro

Type II topoisomerase inhibitor 1 (13 e, 18 h) shows antibacterial activities against E. coli and S. aureus (MIC: 64 and 16 μg/mL, respectively)[1].

Type II topoisomerase inhibitor 1 (50 μM, 48 h) shows an 8.4% inhibition rate for HepG2 cells[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	HepG2 cells
Concentration:	10, 50 μM
Incubation Time:	10, 50 μM
Result:	Showed cytoxicity with inhibition rates of 8.4% at 50 μM, 1.5% at 10 μM.

REFERENCES

[1]. Fumihito Ushiyama, et al. Lead Identification of 8-(Methylamino)-2-oxo-1,2-dihydroquinoline Derivatives as DNA Gyrase Inhibitors: Hit-to-Lead Generation Involving Thermodynamic Evaluation. ACS Omega. 2020 Apr 24;5(17):10145-10159.

[2]. Fumihito Ushiyama, et al. Lead optimization of 8-(methylamino)-2-oxo-1,2-dihydroquinolines as bacterial type II topoisomerase inhibitors. Bioorg Med Chem. 2020 Nov 15;28(22):115776.

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

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA