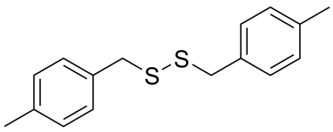
IITR08367

Cat. No.:	HY-163473
Molecular Formula:	$C_{16}H_{18}S_2$
Molecular Weight:	274.44
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

IITR08367 is a potent effector pump Acinetobacter baumannii Fosfomycin Efflux pump (AbaF) inhibitor for enhancing the antimicrobial activity of Fosfomycin (HY-B1075A) against ***Acinetobacter baumannii***. IITR08367 acts by interfering with Fosfomycin/H^+ reverse transporter activity. [1].

In Vitro

IITR08367 (0-50 μM) concentration-dependently enhances the activity of Fosfomycin against AbaF-expressing strain of Escherichia coli. A concentration of 50 μM can increase the postantibiotic effect of Fosfomycin by 30 min[1].
IITR08367 (25 μM; 16 min) disrupts the H^+ gradient across the membrane, ultimately inhibiting the H^+ gradient-driven efflux pump without causing membrane damage[1].
IITR08367 (100 μM; 12 h) and Fosfomycin (64 mg/L) in combination can inhibit A. baumannii RPTC-15 growth[1].
IITR08367 (100 μM) eliminates the Biofilm Forming Ability of A. baumannii with and without the addition of Fosfomycin[1].
IITR08367 (12.5-200 μM) is not toxic to erythrocytes[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay[1]

Cell Line:	RBCs
Concentration:	12.5; 25; 50; 100; 200 μM
Incubation Time:	6 h
Result:	Showed less than 40% cytotoxicity till 200 μM

In Vivo

IITR08367 (i.p.; 30 mg/kg; every 12 h for 54 h) co-administered with Fosfomycin to Urinary tract infections mice shows significant improvement in the damage caused by A. baumannii RPTC-15, with tissue ultrastructure similar to that of uninfected mice[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Urinary tract infections mice[1]
Dosage:	30 mg/kg; every 12 h for 54 h
Administration:	i.p.

Result:	Reduced the load of A. baumannii RPTC-15 in the kidney and bladder by approximately $3\log_{10}$.

REFERENCES

[1]. Saini M, et al. Small Molecule IITR08367 Potentiates Antibacterial Efficacy of Fosfomycin against Acinetobacter baumannii by Efflux Pump Inhibition. ACS Infect Dis. 2024 Apr 1.

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