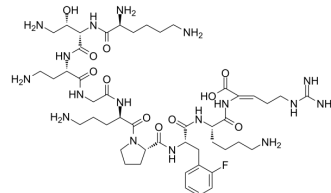


NOSO-502

Cat. No.:	HY-123922
CAS No.:	1894081-09-4
Molecular Formula:	C ₄₇ H ₈₀ FN ₁₇ O ₁₁
Molecular Weight:	1078.24
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	NOSO-502 is an inhibitor of bacterial translation. NOSO-502 exhibits inhibitory activity against Enterobacteriaceae. NOSO-502 has good safety and antibacterial properties ^[1] .							
In Vitro	NOSO-502 (16 µg/mL and 32 µg/mL; 24 h) causes E.coli ATCC 25922 and K. pneumoniae ATCC 43816 strains develop resistance to NOSO-502 ^[1] .							
	NOSO-502 (100 µM) decreases the activity of HRPTEpC cells, but insignificantly increases the expression of heat shock protein 27 (HSP27) and kidney injury molecule 1 (KIM-1) ^[1] .							
	Antibacterial <i>in vitro</i> activities of NOSO-502 ^[1]							
		Citrobacter freundii DSM 30039	Citrobacter kozeri DSM 4595	Enterobacter aerogenes DSM 30053	Enterobacter cloacae DSM 14563	Escherichia coli ATCC 25922		
	MIC (µg/mL)	2	2	2	2	4		
	Klebsiella pneumoniae ATCC 43816	Serratia marcescens DSM 17174	Stenotrophomonas maltophilia ATCC 13637	Staphylococcus aureus ATCC 29213	Staphylococcus epidermidis ATCC 12228			
	MIC (µg/mL)	1	4	16	1	0.25		
MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
In Vivo	NOSO-502 (1.3-40 mg/kg; s.c.; single dose) shows antibacterial activity in NMRI mice infected E. coli EN122 ^[1] .							
	NOSO-502 (4-24 mg/kg; s.c.; single dose) shows protective effect in C3H/HeN mice infected E. coli UT189 ^[1] .							
	NOSO-502 (2-80 mg/kg; s.c.; single dose) shows protective effect in CD-1/ICR mice infected K. pneumoniae NCTC 13442 ^[1] .							
	Pharmacokinetic (PK) parameters of NOSO-502 ^[1]							
	Species	Route	Dose (mg/kg)	C _{max} (mg/L)	AUC _{0-Tlast} (mg/L•h)	V _d (L/kg)	T _{1/2} (min)	Clearance (L/h/kg)

Mouse	Intravenous injection	30	23.46	8.88	0.66	25	1.13
Rat	Intravenous injection	15	40.70	7.99	0.94	90	1.92

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

Animal Model: Female NMRI mice infected E. coli EN122^[1].

Dosage: 1.3, 2.5, 5, 10, 20, and 40 mg/kg.

Administration: Subcutaneous injection; single dose.

Result: Showed anti-infective effect.

Animal Model: Female C3H/HeN mice infected E. coli UTI89^[1].

Dosage: 4, 12 and 24 mg/kg.

Administration: Subcutaneous injection; single dose.

Result: Significantly attenuated E. coli UTI89 damage to urine, bladder, kidneys, and improved survival rates.

Animal Model: Male CD-1/ICR mice infected K. pneumoniae NCTC 13442^[1].

Dosage: 2, 6, 20 and 80 mg/kg.

Administration: Subcutaneous injection; single dose.

Result: Significantly improved lung tissue damage.

REFERENCES

[1]. Racine E, et al. In Vitro and In Vivo Characterization of NOSO-502, a Novel Inhibitor of Bacterial Translation. Antimicrob Agents Chemother. 2018 Aug 27;62(9):e01016-18.

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

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