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Zuschläge

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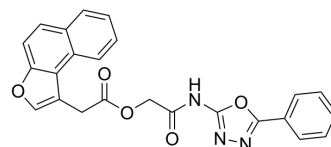
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LtaS-IN-1

Cat. No.:	HY-135813
CAS No.:	877950-01-1
Molecular Formula:	C ₂₄ H ₁₇ N ₃ O ₅
Molecular Weight:	427.41
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 125 mg/mL (292.46 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM		2.3397 mL	11.6984 mL	23.3967 mL
		5 mM		0.4679 mL	2.3397 mL	4.6793 mL
		10 mM		0.2340 mL	1.1698 mL	2.3397 mL
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: 2.08 mg/mL (4.87 mM); Suspended solution; Need ultrasonic					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 2.08 mg/mL (4.87 mM); Suspended solution; Need ultrasonic					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (4.87 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	LtaS-IN-1 (compound 1771) is a potent small-molecule inhibitor of Lipoteichoic acid (LTA) synthesis in multidrug-resistant (MDR) <i>E. faecium</i> and by altering the cell wall morphology. LtaS-IN-1 alone inhibits <i>Enterococcus.spp</i> 28 strains with varying MIC values ranging from 0.5 µg/mL to 64 µg/mL. LtaS-IN-1 combination with antibiotics abolishes multidrug-resistant <i>E. faecium</i> growth almost completely ^[1] .
IC ₅₀ & Target	MIC: 0.5 µg/mL (strain E1630); 0.5 µg/mL (strain E1590) ^[1]

In Vitro

LtaS-IN-1 (0-100 μ M) inhibits strain E745 growth as a concentration-dependent manner. At the concentration 10 μ M leads to an 60% reduction in the final OD600 for this strain. Meanwhile, LtaS-IN-1 does not affect *E. faecium* growth in control group [1].

LtaS-IN-1 is against *Enterococcus* spp 28 strains with varying MIC values ranging from 0.5 μ g/mL to 64 μ g/mL. LtaS-IN-1 inhibits strain E1630 and E1590 with the MIC values of 0.5 μ g/mL^[1].

LtaS-IN-1 (20 μ M) combines with either ampicillin (20 μ g/mL), gentamicin (10 μ g/mL), linezolid (5 μ g/mL), daptomycin (10 μ g/mL+50 μ g/mL calcium chloride) or vancomycin (20 μ g/mL) can inhibit strains E7128 and E7130 growth by 97-100%, while LtaS-IN-1 alone only gives 73% (strain E7128) and 8% (strain E7130) of growth inhibition, respectively^[1].

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

CUSTOMER VALIDATION

- bioRxiv. 2023 Apr 10.

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REFERENCES

[1]. Paganelli FL, et al. Lipoteichoic acid synthesis inhibition in combination with antibiotics abrogates growth of multidrug-resistant *Enterococcus faecium*. *Int J Antimicrob Agents*. 2017 Mar;49(3):355-363.

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

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