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Zuschläge

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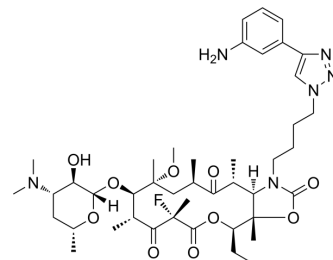
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Solithromycin

Cat. No.:	HY-17593		
CAS No.:	760981-83-7		
Molecular Formula:	C ₄₃ H ₆₅ FN ₆ O ₁₀		
Molecular Weight:	845.01		
Target:	Bacterial; Antibiotic		
Pathway:	Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 32 mg/mL (37.87 mM)
H₂O : < 0.1 mg/mL (insoluble)
* "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		1.1834 mL	5.9171 mL	11.8342 mL
	5 mM		0.2367 mL	1.1834 mL	2.3668 mL
	10 mM		0.1183 mL	0.5917 mL	1.1834 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (2.96 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (2.96 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Solithromycin (CEM-101) is an orally bioavailable, effective antimicrobial agent, with IC₅₀s for inhibition of cell viability, protein synthesis, and growth rate are 7.5 ng/mL, 40 ng/mL, and 125 ng/mL for Streptococcus pneumonia, Staphylococcus aureus, and Haemophilus influenzae, respectively. Solithromycin binds to the large 50S subunit of the ribosome and inhibits protein biosynthesis^[1].

IC₅₀ & Target

Macrolide

In Vitro

The IC₅₀s values for Solithromycin on TNFα and CXCL8 release are 41.6 μM and 78.2 μM, respectively. Solithromycin

markedly reduces MMP9 activity, with an IC₅₀ of 14.9 μM^[2].

Solithromycin (0-333 μM; 72 hours; U937 and PBMC cells) suppresses lipopolysaccharide-induced TNFα release and phorbol 12-myristate 13-acetate (PMA)-induced matrix metalloproteinase 9 (MMP9) activity, and does not affect cell viability in monocytic U937 and PBMC cells^[2].

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

In Vivo

Solithromycin (100 mg/kg; oral administration; every day; for 8 days; C57BL/6J mice) treatment inhibits inflammatory cells accumulation and pro-MMP9 production in cigarette smoke-exposed mice^[2].

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

Animal Model:	C57BL/6J mice (male, 4 weeks) ^[2]
Dosage:	100 mg/kg
Administration:	Oral administration; every day; for 8 days
Result:	Inhibited cigarette smoke-induced neutrophilia and pro-MMP9 production.

CUSTOMER VALIDATION

- ACS Infect Dis. 2021 Oct 26.
- Antimicrob Agents Chemother. 2018 Jul 27;62(8). pii: e00821-18.

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REFERENCES

[1]. Rodgers W, et al. Solithromycin inhibition of protein synthesis and ribosome biogenesis in Staphylococcus aureus, Streptococcus pneumoniae, and Haemophilus influenzae. Antimicrob Agents Chemother. 2013 Apr;57(4):1632-1637.

[2]. Kobayashi Y, et al. A novel macrolide solithromycin exerts superior anti-inflammatory effect via NF-κB inhibition. J Pharmacol Exp Ther. 2013 Apr;345(1):76-84.

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

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