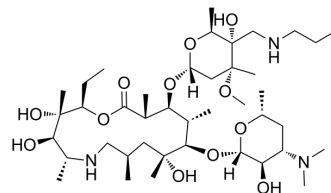


Tulathromycin A

Cat. No.:	HY-15662		
CAS No.:	217500-96-4		
Molecular Formula:	C ₄₁ H ₇₉ N ₃ O ₁₂		
Molecular Weight:	806.08		
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 : 50 mg/mL (62.03 mM; Need ultrasonic)					
		Solvent Concentration	Mass	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM		1.2406 mL	6.2029 mL	12.4057 mL
		5 mM		0.2481 mL	1.2406 mL	2.4811 mL
10 mM			0.1241 mL	0.6203 mL	1.2406 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (3.10 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (3.10 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (3.10 mM); Clear solution 					

BIOLOGICAL ACTIVITY

Description	Tulathromycin A (Tulathromycin), a macrolide antibiotic, inhibits protein synthesis (IC ₅₀ =0.26 μM) by targeting bacterial ribosome. Tulathromycin A is used for the research of respiratory disease in cattle and swine. Immunomodulatory effects ^[1] [2][3].
IC ₅₀ & Target	Macrolide
In Vitro	Tulathromycin A (Tulathromycin) represents the first member of a novel subclass of macrolides, known as triamilides ^[1] .

Tulathromycin A (0.02 to 2.0 mg/mL) induces time- and concentration-dependent apoptosis in neutrophils, which enhances their subsequent clearance by macrophages^[3].

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

In Vivo

In the lungs of both A pleuropneumoniae- and zymosan-challenged pigs, Tulathromycin A (2.5 mg/kg, IM) promotes leukocyte apoptosis and efferocytosis and inhibites proinflammatory leukotriene B4 production, with a concurrent reduction in leukocyte necrosis relative to that of control pigs. Tulathromycin A also attenuates the degree of lung damage and lesion progression in A pleuropneumoniae-inoculated pigs^[3].

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

CUSTOMER VALIDATION

- Pulm Pharmacol Ther. 2021 Nov 2;102095.

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REFERENCES

[1]. Villarino N, et al. Pharmacokinetics of tulathromycin in healthy and neutropenic mice challenged intranasally with lipopolysaccharide from Escherichia coli. Antimicrob Agents Chemother. 2012;56(8):4078-4086.

[2]. Andersen NM, et al. Inhibition of protein synthesis on the ribosome by tildipirosin compared with other veterinary macrolides. Antimicrob Agents Chemother. 2012;56(11):6033-6036.

[3]. Duquette SC, et al. Immunomodulatory effects of tulathromycin on apoptosis, efferocytosis, and proinflammatory leukotriene B4 production in leukocytes from Actinobacillus pleuropneumoniae-or zymosan-challenged pigs. Am J Vet Res. 2015;76(6):507-519.

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

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