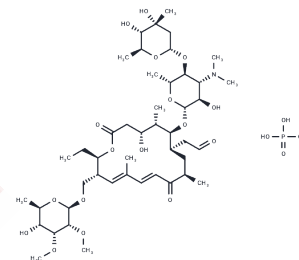


Tylosin phosphate

Chemical Properties

CAS No. :	1405-53-4
Formula:	C ₄₆ H ₈₀ NO ₂₁ P
Molecular Weight:	1014.1
Storage:	Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	Tylosin phosphate is a broad-spectrum macrolide antibiotic produced by <i>Streptomyces freii</i> and intended exclusively for animal use. Tylosin phosphate inhibits bacterial protein synthesis by reversibly binding to the 50S ribosomal subunit; it exhibits high antibacterial activity, particularly against Gram-positive bacteria, mycoplasmas, and certain Gram-negative bacteria. Tylosin phosphate is a feed additive widely used to promote animal growth. It is also used in research on bacterial dysentery and respiratory diseases in poultry, swine, and cattle.
Targets(IC50)	Antibacterial, Antibiotic
In vitro	Tylosin phosphate also prevents growth of Gram-negative strains, with MICs of 64 µg/mL, 32 µg/mL, 512 µg/mL and 1 µg/mL for <i>M. haemolytica</i> 11935, <i>P. multocida</i> 4407, <i>E. coli</i> ATCC 25922 and <i>E. coli</i> AS19rlmAI, respectively.[2]
In vivo	Methods: Tylosin phosphate was administered subcutaneously to Balb/C mice at doses of 10 mg/kg, 100 mg/kg, and 500 mg/kg, followed by intraperitoneal injection of 250 µg of LPS. Mice were euthanized in batches at 0, 1, 2, 3, 6, 12, and 24 hours post-administration, and serum was collected via cardiac puncture. Results: Tylosin phosphate significantly reversed LPS-induced cytokine dysregulation. [1]

Solubility Information

Solubility	DMSO: Soluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.9861 mL	4.9305 mL	9.861 mL
5 mM	0.1972 mL	0.9861 mL	1.9722 mL
10 mM	0.0986 mL	0.493 mL	0.9861 mL
50 mM	0.0197 mL	0.0986 mL	0.1972 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Ayşe Er, et al. Effects of tylosin on serum cytokine levels in healthy and lipopolysaccharide-treated mice. *Acta Vet Hung.* 2010 Mar;58(1):75-81.

Niels Møller Andersen, et al. Inhibition of Protein Synthesis on the Ribosome by Tildipirosin Compared with Other Veterinary Macrolides. *Antimicrob Agents Chemother.* 2012 Nov; 56(11): 6033-6036.

Liu M, Douthwaite S. Resistance to the macrolide antibiotic tylosin is conferred by single methylations at 23S rRNA nucleotides G748 and A2058 acting in synergy. *Proc Natl Acad Sci U S A.* 2002;99(23):14658-14663.

Carlo Pinna, et al. In Vitro Evaluation of the Effects of Tylosin on the Composition and Metabolism of Canine Fecal Microbiota. *Animals (Basel).* 2020 Jan; 10(1): 98.

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