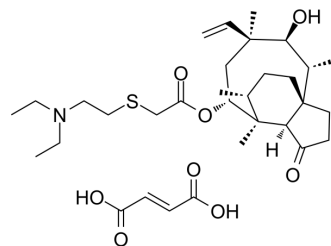


Tiamulin fumarate

Cat. No.:	HY-B2060A
CAS No.:	55297-96-6
Molecular Formula:	C ₃₂ H ₅₁ NO ₈ S
Molecular Weight:	609.81
Target:	Bacterial; Antibiotic
Pathway:	Anti-infection
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (163.99 mM)
 H₂O : 100 mg/mL (163.99 mM; Need ultrasonic)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM	1.6399 mL	8.1993 mL	16.3986 mL
	5 mM	0.3280 mL	1.6399 mL	3.2797 mL	
	10 mM	0.1640 mL	0.8199 mL	1.6399 mL	

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

In Vivo

1. Add each solvent one by one: PBS
Solubility: 100 mg/mL (163.99 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (4.10 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (4.10 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (4.10 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tiamulin (Thiamutilin) fumarate is a diterpene antibiotic that is widely used in pigs and poultry for the control of infectious diseases. Tiamulin fumarate is effectively used in the study of airsacculitis, which is primarily caused by *Mycoplasma* spp^[1].

In Vitro

Tiamulin fumarate is a semisynthetic derivative of the diterpene antibiotic Pleuromutilin and is effectively used in the study of airsacculitis, which is primarily caused by *Mycoplasma* spp^[1].

	<p>Tiamulin fumarate is highly active in vitro against Mycoplasma strains (M. gallisepticum, M. synoviae, M. meleagridis, and M. iowae), Spirochaetes (Brachyspira hyodysenteriae, Brachyspira innocens, B. pilosicoli, B. intermedia), gram-positive bacteria (staphylococci, streptococci, Clostridia, Arcanobacterium spp), but less active against gram-negative bacteria (Pasteurella, Klebsiella, Haemophilus, Fusobacterium, Campylobacter, Bacteroides spp.)^[1].</p> <p>Tiamulin fumarate binds with the rRNA in the peptidyl transferase slot on the ribosome, in which it prevents the correct positioning of the CCA ends of tRNA for peptide transferase and subsequent protein production^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
In Vivo	<p>Tiamulin fumarate is highly effective in the treatment of avian intestinal spirochaetosis in breeder and layer hens at 25 mg/kg of BW per day over 5 d in artificial infection studies with B. pilosicoli and B. intermedia, respectively^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

[1]. Dreyfuss J, et al. Metabolism of tritium- and carbon-14-labeled tiamulin in dogs, rats, and pigs. J Antibiot (Tokyo). 1979 May;32(5):496-503.

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

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