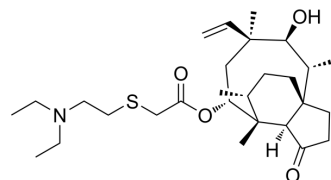


## Tiamulin

<b>Cat. No.:</b>	HY-B2060		
<b>CAS No.:</b>	55297-95-5		
<b>Molecular Formula:</b>	C <sub>28</sub> H <sub>47</sub> NO <sub>4</sub> S		
<b>Molecular Weight:</b>	493.74		
<b>Target:</b>	Bacterial; Antibiotic		
<b>Pathway:</b>	Anti-infection		
<b>Storage:</b>	Pure form	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 100 mg/mL (202.54 mM; Need ultrasonic)

Concentration	Solvent	Mass	1 mg	5 mg	10 mg
			1 mM	2.0254 mL	10.1268 mL
5 mM			0.4051 mL	2.0254 mL	4.0507 mL
10 mM			0.2025 mL	1.0127 mL	2.0254 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: ≥ 5 mg/mL (10.13 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 5 mg/mL (10.13 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Tiamulin (Thiamutilin) is a diterpenic antibiotic that is widely used in pigs and poultry for the control of infectious diseases. Tiamulin is effectively used in the study of airsaccutitis, which is primarily caused by *Mycoplasma* spp<sup>[1]</sup>.

#### In Vitro

Tiamulin is a semisynthetic derivative of the diterpene antibiotic Pleuromutilin and is effectively used in the study of airsaccutitis, which is primarily caused by *Mycoplasma* spp<sup>[1]</sup>.  
Tiamulin 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.)<sup>[1]</sup>.  
Tiamulin binds with the rRNA in the peptidyl transferase slot on the ribosome, in which it prevents the correct positioning of

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	the CCA ends of tRNA for peptide transferase and subsequent protein production <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	Tiamulin 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 <i>B. pilosicoli</i> and <i>B. intermedia</i> , respectively <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## REFERENCES

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[1]. Islam KM, et al. The activity and compatibility of the antibiotic tiamulin with other drugs in poultry medicine--A review. *Poult Sci.* 2009 Nov;88(11):2353-9.

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

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