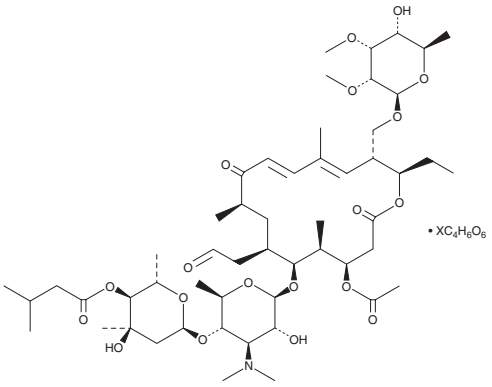
PRODUCT INFORMATION

Tylvalosin (tartrate)

Item No. 33849



CAS Registry No.:	63428-13-7
Formal Name:	3-acetate 4^B-(3-methylbutanoate) tylosin, 2R,3R-dihydroxybutanedioate
Synonym:	Acetylisovaleryltylosin tartrate
MF:	$C_{53}H_{87}NO_{19} \bullet XC_4H_6O_6$
FW:	1,042.3
Purity:	≥80%
UV/Vis.:	λ_{max}: 290 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Tylvalosin (tartrate) is supplied as a solid. A stock solution may be made by dissolving the tylvalosin (tartrate) in the solvent of choice, which should be purged with an inert gas. Tylvalosin (tartrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of tylvalosin (tartrate) in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of tylvalosin (tartrate) can be prepared by directly dissolving the solid in aqueous buffers. Tylvalosin (tartrate) is slightly soluble in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

Tylvalosin is a macrolide antibiotic.[1] It is active against *S. aureus*, *E. coli*, and *P. multocida* (MICs = 2, 128, and 128 µg/ml, respectively). Tylvalosin (5 and 10 µg/ml) reduces LPS-induced production of pro-inflammatory cytokines, prostaglandin E_2 (PGE_2; Item No. 14010), and nitric oxide in RAW 264.7 cells.[2] It reduces the severity of lung lesions in pigs infected with *M. hyopneumoniae* and *P. multocida* when administered at a dose of 10 mg/kg per day in the drinking water.[3] Formulations containing tylvalosin have been used in the treatment and metaphylaxis of enzootic pneumonia caused by *M. hyopneumoniae* in pigs.

References

1. Yang, B., Lei, Z., Zhao, Y., *et al.* Combination susceptibility testing of common antimicrobials *in vitro* and the effects of sub-MIC of antimicrobials on *Staphylococcus aureus* biofilm formation. *Front. Microbiol.* **8**, 2125 (2017).
2. Zhao, Z., Tang, X., Zhao, X., *et al.* Tylvalosin exhibits anti-inflammatory property and attenuates acute lung injury in different models possibly through suppression of NF-κB activation. *Biochem. Pharmacol.* **90(1)**, 73-87 (2014).
3. Lopez Rodriguez, A., Berge, A.C., Ramage, C., *et al.* Evaluation of the clinical efficacy of a water soluble formulation of tylvalosin in the control of enzootic pneumonia associated with *Mycoplasma hyopneumoniae* and *Pasteurella multocida* in pigs. *Porcine Health Manag.* **6(1)**, 39 (2020).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM