

Product Name:	Tylosin
Product Number:	T013
CAS Number:	1401-69-0
Molecular Formula:	C ₄₆ H ₇₇ NO ₁₇
Molecular Weight:	916.10
Appearance:	Almost white or slightly yellow powder
pH:	8.5 - 10.5
Description:	<p>Tylosin is a macrolide antibiotic that was originally isolated from <i>Streptomyces fradiae</i> by the Lilly Research Laboratories in 1961 from a soil sample collected in Thailand. Tylosin is a mixture of four macrolide antibiotics, the main component of the mixture (> 80%) is <u>tylosin A</u>; <u>tylosin B</u> (desmycosin), tylosin C (macrocin), and tylosin D (relomycin) may also be present. Tylosin has broad spectrum bacteriostatic activity against gram-positive bacteria and mycoplasma, but much less activity against most gram-negative bacteria and fungi.</p> <p>Tylosin, like other Macrolide antibiotics, is a bacteriostatic compound that reversibly bind to the 23S rRNA in the 50S (L27 protein) ribosome subunit and inhibit mRNA-directed protein synthesis.</p> <p>Tylosin has been used to study protein synthesis, abscess prevention in cattle, and <i>Mycoplasma</i> infections.</p> <p>For more tylosin products click here.</p>
Mechanism of Action:	<p>Macrolide antibiotics inhibit bacterial growth by targeting the 50S ribosomal subunit preventing peptide bond formation and translocation during protein synthesis. Resistance to tylosin is commonly attributed to mutations in 50S rRNA preventing tylosin binding allowing the cell to synthesize proteins free of error.</p>
Spectrum:	<p>Tylosin targets primarily gram positive bacteria and species of the <i>Mycoplasma</i> genus.</p>
Microbiology Applications	<p>Tylosin is commonly used in clinical <i>in vitro</i> microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against gram positive and <i>Mycoplasma</i> microbial isolates. Medical microbiologists use AST results to recommend antibiotic treatment options for infected patients. Representative MIC values include:</p> <ul style="list-style-type: none">• <i>Mycoplasma hyopneumoniae</i> 0.015 µg/mL – 0.3 µg/mL• <i>Streptococcus pneumoniae</i> 0.125 µg/mL - 64 µg/mL• For a complete list of tylosin MIC values, click here.

References:

Lovmar, Martin, and Tanel Tenson. "The Mechanism of Action of Macrolides, Lincosamides and Streptogramin B Reveals the Nascent Peptide Exit Path in the Ribosome." *Journal of Molecular Microbiology* 330.5 (2003): 1005-014.

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