

Product Name:	Erythromycin Estolate
Product Number:	E003
CAS Number:	3521-62-8
Molecular Formula:	$C_{40}H_{71}NO_{14} \cdot C_{12}H_{26}SO_4$
Molecular Weight:	1056.39 g/mol
Form:	Powder
Appearance:	White crystalline powder
Solubility:	Freely soluble in organic solvents (ethanol, acetone, chloroform, polyethylene glycol, and benzene). It is insoluble in water.
Source:	<i>Actinomycete saccha</i>
Water Content (Karl Fischer):	<4.0%
Melting Point:	132-138 °C
Storage Conditions:	Light sensitive
Description:	<p>Erythromycin estolate, a derivative of Erythromycin, is the lauryl sulfate salt of the proprionic ester of Erythromycin. It acts as a bacteriostatic agent, and has a role as an enzyme inhibitor. Erythromycin estolate is freely soluble in organic solvents but practically insoluble in water.</p> <p>For other Erythromycin products, click here.</p>
Mechanism of Action:	Macrolide antibiotics inhibit bacterial growth by targeting the 50S ribosomal subunit preventing peptide bond formation and translocation during protein synthesis. Resistance to Erythromycin is commonly attributed to mutations in 50S rRNA preventing erythromycin binding allowing the cell to synthesize proteins free of error.
Spectrum:	Erythromycin is a broad-spectrum antibiotic commonly targeting targeting Gram-negative and Gram-positive bacteria. It is also effective against <i>Mycoplasmas</i> including <i>Mycoplasma pneumoniae</i> .
Microbiology Applications	<p>Erythromycin Estolate is commonly used in clinical <i>in vitro</i> microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against Gram-positive, Gram-negative, and <i>Mycoplasmas</i> species. 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 pneumoniae</i> 0.0019 µg/mL – 0.0078 µg/mL • <i>Legionella pneumophila</i> 0.008 µg/mL – 1 µg/mL • For a complete list of Erythromycin MIC values, click here.

References:

de Longueville, F et al (2003) Use of a low-density microarray for studying gene expression patterns induced by hepatotoxicants on primary cultures of rat hepatocytes. *Toxicolog. Sci.* 75(2):378-392 PMID 12883083

Lovmar, M and Tenson T (2003) The Mechanism of action of macrolides, Lincosamides and Streptogramin B reveals the nascent peptide exit path in the ribosome. *J. Molec. Microbiol.* 330(5):1005-1014 PMID 12860123

Potthast H, Schug B, Elze M, Schwerdtle R, Blume H (1995) Comparison of the bioavailabilities of erythromycin estolate and erythromycin ethylsuccinate dry suspension preparations in steady state. *Pharmazie* 50(1):56-60 PMID 7886126

Viluksel M, Vainio PJ, Raimo K, Tuominen RK (1996) Cytotoxicity of macrolide antibiotics in a cultured human liver cell line, *J. Antimicrob. Chemother.* 38 (3):465–473 PMID 8889721

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