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: *Actinomycete saccha*
Water Content (Karl Fischer): <4.0%
Melting Point: 132-138 °C
Storage Conditions: Light sensitive
Description: Erythromycin estolate, a derivative of Erythromycin, is the lauryl sulfate salt of the propionic 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.

For other Erythromycin products, click here.

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 *Mycoplasmas* including *Mycoplasma pneumoniae*.

Microbiology Applications Erythromycin Estolate is commonly used in clinical in vitro microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against Gram-positive, Gram-negative, and *Mycoplasmas* species. Medical microbiologists use AST results to recommend antibiotic treatment options for infected patients. Representative MIC values include:

- *Mycoplasma pneumoniae* 0.0019 µg/mL – 0.0078 µg/mL
- *Legionella pneumophila* 0.008 µg/mL – 1 µg/mL
- For a complete list of Erythromycin MIC values, click here.
References:
gene expression patterns induced by hepatotoxicants on primary cultures of rat
hepatocytes. Toxicolog. Sci. 75(2):378-392 PMID 12883083


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