

Product Name:	Erythromycin Ethylsuccinate
Product Number:	E004
CAS Number:	1264-62-6
Molecular Formula:	C ₄₃ H ₇₅ NO ₁₆
Molecular Weight:	862.05 g/mol
Form:	Powder
Appearance:	White crystalline powder
Solubility:	Freely soluble in organic solvents. Sparingly soluble in water.
Source:	<i>Saccharopolyspora erythraea</i>
Water Content (Karl Fischer):	<3.0%
pH:	6.0-8.5
Melting Point:	219-224 °C
Flash Point:	482.4 °C
Optical Rotation:	[α] _D -42.5°
Storage Conditions:	Store in a tight container at RT. Light sensitive.
Description:	<p>Erythromycin Ethylsuccinate, an ethylsuccinate salt form of Erythromycin, is a broad-spectrum macrolide antibiotic produced by <i>Streptomyces erythraeus</i>. The compound is an ester of erythromycin base and succinic acid. Erythromycin Ethylsuccinate can act as an enzyme inhibitor, and can down-regulate motilin receptors. It is freely soluble in organic solvents.</p>

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. for this reason, Erythromycin Ethylsuccinate can be used to study Erythromycin-resistant <i>Streptococcus pyogenes</i> and <i>Streptococcus pneumoniae</i> .
Spectrum:	Erythromycin is a broad-spectrum antibiotic commonly targeting Gram-positive and Gram-negative bacteria, with similar spectrum to penicillin. It is also effective against <i>Mycoplasmas</i> and can be used for <i>M. pneumoniae</i> . It is commonly used to target bacteria responsible for respiratory tract infections.

Microbiology Applications Erythromycin ethylsuccinate is commonly used in clinical *in vitro* microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against Gram-positive, Gram-negative, and *Mycoplasma* 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:

Bologna SD, Hasler WL and Owyang C (1993) Down-regulation of motilin receptors on rabbit colon myocytes by chronic oral erythromycin. J. Pharmacol Exp Ther 266(2):852-856 PMID 8355213

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

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