

PRODUCT INFORMATION



Erythromycin

Item No. 16486

CAS Registry No.: 114-07-8

Formal Name: (3R,4S,5S,6R,7R,9R,11R,12R,13S,14R)-6-(((2S,3R,4S,6R)-4-(dimethylamino)-3-hydroxy-6-methyltetrahydro-2H-pyran-2-yl)oxy)-14-ethyl-7,12,13-trihydroxy-4-(((2R,4R,5S,6S)-5-hydroxy-4-methoxy-4,6-dimethyltetrahydro-2H-pyran-2-yl)oxy)-3,5,7,9,11,13-hexamethyloxacyclotetradecane-2,10-dione

Synonym: NSC 55929

MF: $C_{37}H_{67}NO_{13}$

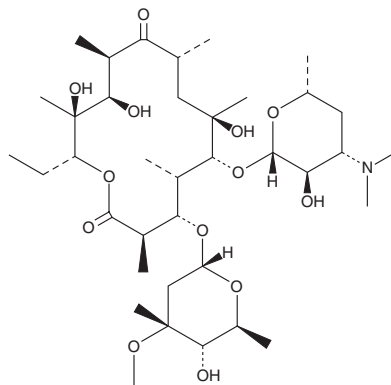
FW: 733.9

Purity: $\geq 98\%$

Supplied as: A crystalline 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

Erythromycin is supplied as a crystalline solid. A stock solution may be made by dissolving the erythromycin in the solvent of choice, which should be purged with an inert gas. Erythromycin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of erythromycin is approximately 30 mg/ml in ethanol and 15 mg/ml in DMSO and DMF.

Erythromycin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, erythromycin should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Erythromycin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Erythromycin is a macrolide antibiotic that inhibits bacterial protein synthesis by targeting the 50S ribosomal subunit, blocking the progression of nascent polypeptide chains.¹ It is active against a host of bacterial genera, including *Streptococcus*, *Staphylococcus*, and *Haemophilus* ($\text{MIC}_{90\text{s}} = 0.015\text{--}2.0$ mg/l).² Erythromycin (10–40 mg/kg) dose-dependently inhibits the growth of *S. aureus* in a mouse model of thigh infection.³ It also inhibits the cytochrome P450 (CYP450) isoform CYP3A4 *in vitro* with IC_{50} values of 33 and 27.3 μM for α -hydroxytriazolam and 4-hydroxytriazolam formation, respectively, following administration of triazolam, which is known to be metabolized primarily by CYP3A4.^{4,5} Formulations containing erythromycin have been used in the treatment of bacterial respiratory and skin infections, pertussis, and a variety of other bacterial infections.

References

1. Wilson, D.N. *Crit. Rev. Biochem. Mol. Biol.* **44**(6), 393–433 (2009).
2. Kanatani, M.S. and Guglielmo, B.J. *Western J. Med.* **160**(1), 31–37 (1994).
3. Hoogeterp, J.J., Mattie, H., and van Furth, R. *Scand. J. Infect. Dis.* **25**(1), 123–132 (1993).
4. Westphal, J.F. *Br. J. Clin. Pharmacol.* **50**(4), 285–295 (2000).
5. Greenblatt, D.J., von Moltke, L.L., Harmatz, J.S., et al. *Clin. Pharmacol. Ther.* **64**(3), 278–285 (1998).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/04/2022

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