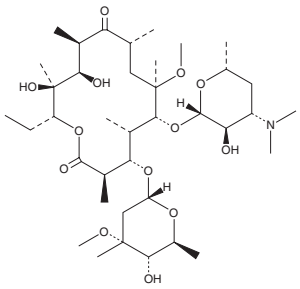
PRODUCT INFORMATION

Clarithromycin

Item No. 19455

CAS Registry No.:	81103-11-9
Formal Name:	6-O-methyl-erythromycin
Synonyms:	A-56268, Antibiotic A 56268, TE 031
MF:	$C_{38}H_{69}NO_{13}$
FW:	748.0
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Clarithromycin is supplied as a crystalline solid. A stock solution may be made by dissolving the clarithromycin in the solvent of choice, which should be purged with an inert gas. Clarithromycin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of clarithromycin in these solvents is approximately 1 mg/ml.

Clarithromycin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, clarithromycin should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Clarithromycin 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

Clarithromycin is a polyketide synthase-derived semisynthetic macrolide antibiotic.[1-3] It is active against methicillin-susceptible, but not methicillin-resistant, *S. aureus* (MIC_{50}s = 0.06 and >128 µg/ml), *S. pyogenes*, *L. monocytogenes*, and *B. pertussis* (MIC_{50} = 0.015, 0.25, and ≤0.008 µg/ml, respectively), among others.[1] Clarithromycin (25 mg/kg) decreases the number of colony-forming units (CFUs) in the spleen in a mouse model of *M. avium* infection.[4] Formulations containing clarithromycin have been used in the treatment of bacterial infections.

References

1. Hardy, D.J., Hensey, D.M., Beyer, J.M., *et al.* Comparative *in vitro* activities of new 14-, 15-, and 16-membered macrolides. *Antimicrob. Agents Chemother.* **32(11)**, 1710-1719 (1988).
2. Wilson, D.N. The A-Z of bacterial translation inhibitors. *Crit. Rev. Biochem. Mol. Biol.* **44(6)**, 393-433 (2009).
3. Wu, J., Kinoshita, K., Khosla, C., *et al.* Biochemical analysis of the substrate specificity of the β-ketoacyl-acyl carrier protein synthase domain of module 2 of the erythromycin polyketide synthase. *Biochemistry* **43(51)**, 16301-16310 (2004).
4. Fernandes, P.B., Hardy, D.J., McDaniel, D., *et al.* In vitro and in vivo activities of clarithromycin against *Mycobacterium avium*. *Antimicrob. Agents Chemother.* **33(9)**, 1531-1534 (1989).

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