

PRODUCT INFORMATION



Clarithromycin-¹³C-d₃

Item No. 26678

CAS Registry No.: 2699608-30-3
Formal Name: (3R,4S,5S,6R,7R,9R,11R,12R,13S,14R)-14-ethyl-12,13-dihydroxy-4-(((2R,4R,5S,6S)-5-hydroxy-4-methoxy-4,6-dimethyltetrahydro-2H-pyran-2-yl)oxy)-6-(((2S,3R,4S,6R)-3-hydroxy-6-methyl-4-(methyl(methyl-¹³C-d₃)amino)tetrahydro-2H-pyran-2-yl)oxy)-7-methoxy-3,5,7,9,11,13-hexamethyloxacyclotetradecane-2,10-dione

MF: C₃₇[¹³C]H₆₆D₃NO₁₃
FW: 752.0

Chemical Purity: ≥98% (Clarithromycin)

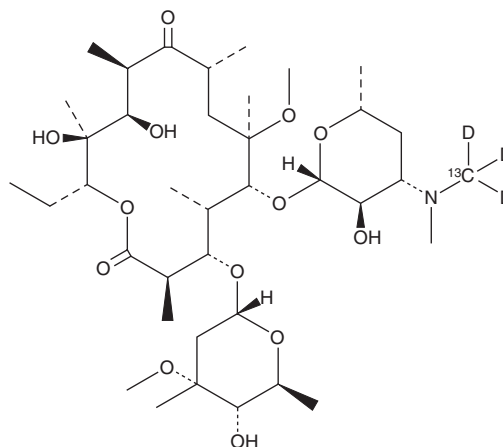
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀

Supplied as: A 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

Clarithromycin-¹³C-d₃ is intended for use as an internal standard for the quantification of clarithromycin (Item No. 19455) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Clarithromycin-¹³C-d₃ is supplied as a solid. A stock solution may be made by dissolving the clarithromycin-¹³C-d₃ in the solvent of choice, which should be purged with an inert gas. Clarithromycin-¹³C-d₃ is soluble in DMSO.

Description

Clarithromycin is a polyketide synthase-derived semisynthetic macrolide antibiotic.¹⁻³ It is active against methicillin-susceptible, but not methicillin-resistant, *S. aureus* (MIC₅₀s = 0.06 and >128 µg/ml), *S. pyogenes*, *L. monocytogenes*, and *B. pertussis* (MIC₅₀ = 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 and, when used in combination with other antibiotics, in the treatment of *H. pylori*.

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).

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.

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