

PRODUCT INFORMATION



Azithromycin-d₃

Item No. 20675

CAS Registry No.: 163921-65-1
Formal Name: (2R,3S,4R,5R,8R,10R,11R,12S,13S,14R)-13-

[(2,6-dideoxy-3-C-methyl-3-O-methyl- α -L-ribo-hexopyranosyl)oxy]-2-ethyl-3,4,10-trihydroxy-3,5,8,10,12,14-hexamethyl-6-(methyl-d₃)-11-[[3,4,6-trideoxy-3-(dimethylamino)- β -D-xylo-hexopyranosyl]oxy]-1-oxa-6-azacyclopentadecan-15-one

MF: C₃₈H₆₉D₃N₂O₁₂

FW: 752.0

Chemical Purity: \geq 98% (Azithromycin)

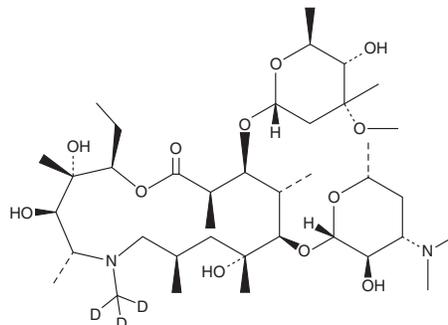
Deuterium

Incorporation: \geq 99% deuterated forms (d₁-d₃); \leq 1% d₀

Supplied as: A solid

Storage: -20°C

Stability: \geq 4 years



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

Laboratory Procedures

Azithromycin-d₃ is intended for use as an internal standard for the quantification of azithromycin (Item No. 15004) 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).

Azithromycin-d₃ is supplied as a solid. A stock solution may be made by dissolving the azithromycin-d₃ in the solvent of choice. Azithromycin-d₃ is soluble in organic solvents such as DMSO and ethanol, which should be purged with an inert gas. The solubility of azithromycin-d₃ in these solvents is approximately 100 mg/ml.

Description

Azithromycin is a macrolide antibiotic.¹ It is active against *S. pneumoniae*, *S. aureus*, *N. gonorrhoeae*, *M. pneumoniae*, *H. pylori*, *C. trachomatis*, and *H. influenzae* *in vitro* (MIC₉₀s = <0.01-2 mg/L). Azithromycin increases survival in mouse models of intraperitoneal *S. pyogenes*, *S. pneumoniae*, *E. faecalis*, or *H. influenzae* infection (ED₅₀s = 0.78, 8.7, 12.7, and 30.3 mg/kg, respectively).² It inhibits replication of severe acute respiratory coronavirus 2 (SARS-CoV-2), but not Middle East respiratory syndrome CoV (MERS-CoV), when used at concentrations of 5 and 10 μ M.³ Azithromycin also decreases plasma levels of IL-6, TNF- α , and IL-1 β and increases survival in a mouse model of LPS-induced sepsis when administered at a dose of 100 mg/kg.⁴ Formulations containing azithromycin have been used in the treatment of a variety of bacterial infections.

References

1. Kanatani, M.S., and Guglielmo, B.J. *Western J. Med.* **160**(1), 31-37 (1994).
2. Girard, D., Finegan, S.M., Dunne, M.W., et al. *J. Antimicrob. Chemother.* **56**(2), 365-371 (2005).
3. Mostafa, A., Kandeil, A., Elshaier, Y.A.M.M., et al. *Pharmaceuticals (Basel)* **13**(12), 443 (2020).
4. Patel, A., Joseph, J., Periasamy, H., et al. *Antimicrob. Agents Chemother.* **62**(9), e00752-18 (2018).

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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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