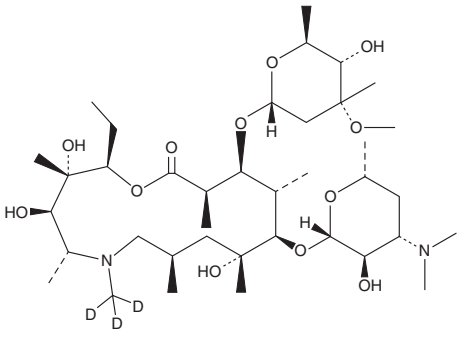
PRODUCT INFORMATION

Azithromycin-d_3

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-d_3)-11-[[3,4,6-trideoxy-3-(dimethylamino)-β-D-xylo-hexopyranosyl]oxy]-1-oxa-6-azacyclopentadecan-15-one
MF: $C_{38}H_{69}D_3N_2O_{12}$
FW: 752.0
Chemical Purity: ≥98% (Azithromycin)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_3); ≤1% d_0
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

Azithromycin-d_3 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-d_3 is supplied as a solid. A stock solution may be made by dissolving the azithromycin-d_3 in the solvent of choice. Azithromycin-d_3 is soluble in organic solvents such as DMSO and ethanol, which should be purged with an inert gas. The solubility of azithromycin-d_3 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* (MIC_{90}s = <0.01-2 mg/L). Azithromycin increases survival in mouse models of intraperitoneal *S. pyogenes*, *S. pneumoniae*, *E. faecalis*, or *H. influenzae* infection (ED_{50}s = 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 µM.[3] Azithromycin also decreases plasma levels of IL-6, TNF-α, and IL-1β 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).

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