

PRODUCT INFORMATION



Doripenem-d₄ (sodium salt)

Item No. 26522

Formal Name: 3-[[[(3S,5S)-5S-[[[aminosulfonyl]amino]methyl]-3-pyrrolidinyl]thio]-6S-[(1R)-1-hydroxyethyl]-4R-(methyl-d₃)-7-oxo-1-azabicyclo[3.2.0]hept-2-ene-4-d₁-2-carboxylic acid, monosodium salt

MF: C₁₅H₁₉D₄N₄O₆S₂ • Na

FW: 446.5

Chemical Purity: ≥98% (Doripenem)

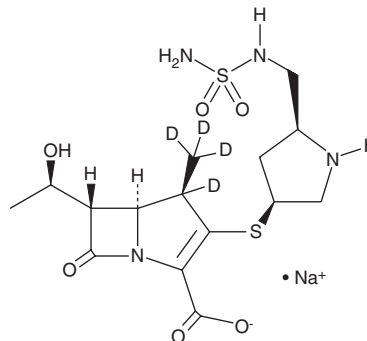
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₄); ≤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

Doripenem-d₄ (sodium salt) is intended for use as an internal standard for the quantification of doripenem (Item No. 16934) 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).

Description

Doripenem is a broad-spectrum antibiotic in the β -lactam subclass known as carbapenems.^{1,2} It is active against Gram-negative and Gram-positive bacteria, including *S. aureus*, *S. pneumoniae*, *E. coli*, and *K. pneumoniae* (MICs = 0.03-0.06, 0.016-0.06, <0.015-0.3, and 0.03-0.06 μ g/ml, respectively).¹⁻⁴ Doripenem reduces the number of viable bacteria in mouse lung in a model of chronic *P. aeruginosa* respiratory tract infection when administered at a dose of 100 mg/kg per day.⁵ It inhibits bacterial cell wall synthesis by forming stable acyl enzymes with penicillin-binding proteins, thereby inactivating them.² Formulations containing doripenem have been used in the treatment of bacterial infections.

References

1. Mandell, L. Doripenem: A new carbapenem in the treatment of nosocomial infection. *Clin. Infect. Dis.* **49(Suppl 1)**, S1-S3 (2009).
2. Paterson, D.L. and DePestel, D.D. Doripenem. *Clin. Infect. Dis.* **49(2)**, 291-298 (2009).
3. Papp-Wallace, K.M., Endimiani, A., Taracila, M.A., et al. Carbapenems: Past, present, and future. *Antimicrob. Agents Chemother.* **55(11)**, 4943-4960 (2011).
4. El Solh, A.A. and Alhajhusain, A. Update on the treatment of *Pseudomonas aeruginosa* pneumonia. *J. Antimicrob. Chemother.* **64(2)**, 229-238 (2009).
5. Araki, N., Yanagihara, K., Morinaga, Y., et al. *In vivo* efficacy of doripenem (DRPM) against *Pseudomonas aeruginosa* in murine chronic respiratory tract infection model. *J. Infect. Chemother.* **17(3)**, 318-321 (2011).

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