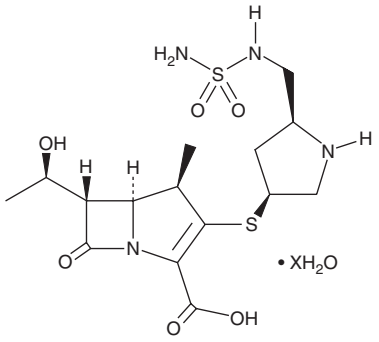
PRODUCT INFORMATION

Doripenem (hydrate)

Item No. 16934

CAS Registry No.: 1820954-21-9
Formal Name: 3-[[(3S,5S)-5S-[[(aminosulfonyl)amino]methyl]-3-pyrrolidinyl]thio]-6S-[(1R)-1-hydroxyethyl]-4R-methyl-7-oxo-1-azabicyclo[3.2.0]hept-2-ene-2-carboxylic acid, hydrate
Synonym: S 4661
MF: $C_{15}H_{24}N_4O_6S_2 \bullet XH_2O$
FW: 420.5
Purity: ≥98%
UV/Vis.: λ_{max}: 300 nm
Supplied as: A crystalline 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 (hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the doripenem (hydrate) in the solvent of choice, which should be purged with an inert gas. Doripenem (hydrate) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of doripenem (hydrate) in these solvents is approximately 20 and 5 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of doripenem (hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of doripenem in PBS (pH 7.2) is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

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 µg/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. *Clin. Infect. Dis.* **49(Suppl 1)**, S1-S3 (2009).
2. Paterson, D.L. and DePestel, D.D. *Clin. Infect. Dis.* **49(2)**, 291-298 (2009).
3. Papp-Wallace, K.M., Endimiani, A., Taracila, M.A., *et al. Antimicrob. Agents Chemother.* **55(11),** 4943-4960 (2011).
4. El Solh, A.A. and Alhajhusain, A. *J. Antimicrob. Chemother.* **64(2)**, 229-238 (2009).
5. Araki, N., Yanagihara, K., Morinaga, Y., *et al. 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.

WARRANTY AND LIMITATION OF REMEDY
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