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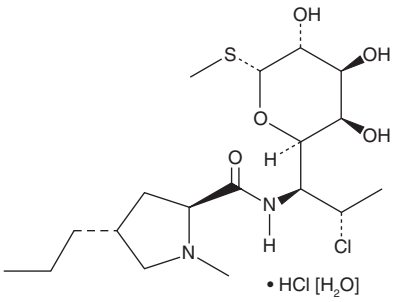
PRODUCT INFORMATION

Clindamycin (hydrochloride hydrate)

Item No. 35581

CAS Registry No.: 58207-19-5
Formal Name: (2S-*trans*)-methyl 7-chloro-6,7,8-trideoxy-6-[[(1-methyl-4-propyl-2-pyrrolidinyl) carbonyl]amino]-1-thio-L-*threo*-α-D-galacto-octopyranoside, monohydrochloride, monohydrate
MF: $C_{18}H_{33}ClN_2O_5S \bullet HCl\ [H_2O]$
FW: 479.5
Purity: ≥98%
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

Clindamycin (hydrochloride hydrate) is supplied as a solid. A stock solution may be made by dissolving the clindamycin (hydrochloride hydrate) in the solvent of choice, which should be purged with an inert gas. Clindamycin (hydrochloride hydrate) is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). Clindamycin (hydrochloride hydrate) is slightly soluble in ethanol. The solubility of clindamycin (hydrochloride hydrate) in DMSO and DMF is approximately 1 and 3 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 clindamycin (hydrochloride hydrate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of clindamycin (hydrochloride hydrate) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Clindamycin is a lincosamide antibiotic.[1,2] It is active against Gram-positive bacteria, including various strains of *S. pneumoniae*, *S. viridans*, *S. aureus*, and *S. epidermidis* (MICs = 0.002-0.1, 0.005-0.2, 0.04-1.6, and 0.1-0.2 µg/ml, respectively).[1] Clindamycin is also active against chloroquine-resistant and -sensitive strains of *P. falciparum* (IC_{50}s = 3.12 and 8.81 nM, respectively).[2] It inhibits bacterial protein synthesis by interacting with the 50S ribosome.[1] Clindamycin increases survival in a mouse model of a secondary *S. pneumoniae* infection when administered at a dose of 15 mg/kg twice daily for seven days.[3] Formulations containing clindamycin have been used in the treatment of bacterial infections.

References

1. Spížek, J. and Řezanka, T. Lincomycin, clindamycin and their applications. *Appl. Microbiol. Biotechnol.* **64(4)**, 455-464 (2004).
2. Dahl, E.L. and Rosenthal, P.J. Multiple antibiotics exert delayed effects against the *Plasmodium falciparum* apicoplast. *Antimicrob. Agents Chemother.* **51(10)**, 3485-3490 (2007).
3. Karlström, Å., Boyd, K.L., English, B.K., *et al.* Treatment with protein synthesis inhibitors improves outcomes of secondary bacterial pneumonia after influenza. *J. Infect. Dis.* **199(3)**, 311-319 (2009).

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