

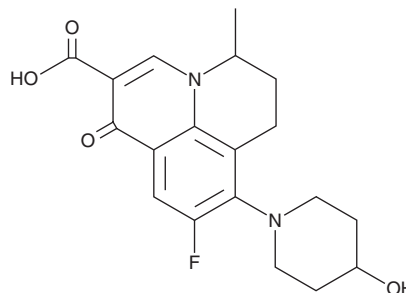
PRODUCT INFORMATION



Nadifloxacin

Item No. 20252

CAS Registry No.: 124858-35-1
Formal Name: 9-fluoro-6,7-dihydro-8-(4-hydroxy-1-piperidinyl)-5-methyl-1-oxo-1H,5H-benzo[*ij*]quinolizine-2-carboxylic acid
Synonym: OPC 7251
MF: C₁₉H₂₁FN₂O₄
FW: 360.4
Purity: ≥98%
UV/Vis.: λ_{max}: 216, 235, 295, 321 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

Nadifloxacin is supplied as a crystalline solid. A stock solution may be made by dissolving the nadifloxacin in the solvent of choice, which should be purged with an inert gas. Nadifloxacin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of nadifloxacin in these solvents is approximately 0.25, 20, and 25 mg/ml, respectively.

Description

Nadifloxacin is a fluoroquinolone antibiotic.¹ It is active against clinical isolates of *S. aureus*, coagulase-negative staphylococci, *P. acnes*, and *P. granulosum* (MIC_{50s} = 0.03, 0.06, 0.25, and 0.125 mg/L, respectively). Nadifloxacin inhibits the activities of DNA gyrase and topoisomerase IV (IC_{50s} = 8.83 and 3.22 mg/L, respectively, for the *S. aureus* enzymes).² Nadifloxacin (30 µg/ml) inhibits *P. acnes*-induced increases in the production of IFN-γ, IL-1β, and IL-12p70 in human peripheral blood mononuclear cells (PBMCs), as well as reduces *P. acnes*-induced increases in the production of IL-8 and IL-6 in isolated human keratinocytes.³ Topical application of a cream containing nadifloxacin (1%) reduces the number of skin lesion colony forming units (CFUs) in a mouse model of burn wounds infected with *S. aureus* or *P. acnes*.² Formulations containing nadifloxacin have been used in the treatment of acne vulgaris.

References

1. Vogt, K., Hermann, J., Blume, U., *et al.* Comparative activity of the topical quinolone OPC-7251 against bacteria associated with acne vulgaris. *Eur. J. Clin. Microbiol. Infect. Dis.* **11(10)**, 943-945 (1992).
2. Yamakawa, T., Mitsuyama, J., and Hayashi, K. *In vitro* and *in vivo* antibacterial activity of T-3912, a novel non-fluorinated topical quinolone. *J. Antimicrob. Chemother.* **49(3)**, 455-465 (2002).
3. Kuwahara, K., Kitazawa, T., Kitagaki, H., *et al.* Nadifloxacin, an antiacne quinolone antimicrobial, inhibits the production of proinflammatory cytokines by human peripheral blood mononuclear cells and normal human keratinocytes. *J. Dermatol. Sci.* **38(1)**, 47-55 (2005).

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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