



Norfloxacin PRODUCT DATA SHEET

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Product Name:	Norfloxacin
Product Number:	N008
CAS Number:	70458-96-7
Molecular Formula:	$C_{16}H_{18}FN_3O_3$
Molecular Weight:	319.33
Form:	Powder
Appearance:	White to light-yellow crystalline powder
Solubility:	Acetone: 5.1 mg/mL Chloroform: 5.5 mg/mL Glacial acetic acid: Freely soluble Water: 0.28 mg/mL Acids and bases: Soluble at pH <5 and >10
Source:	Synthetic
Melting Point:	220-221°C
Storage Conditions:	2-8°C
Description:	Norfloxacin is a first generation synthetic fluoroquinolone antibiotic and is sparingly soluble in aqueous solution at 1mg/mL.
Mechanism of Action:	Norfloxacin indirectly inhibits DNA gyrase by binding to nearby DNA substrate. DNA gyrase is an essential DNA replication enzyme which reduces DNA strain during active DNA replication. Norfloxacin is most active in the pH range between 4.5 and 6.5.
Spectrum:	Norfloxacin is a broad spectrum antibiotic commonly used to target bacteria responsible for urinary tract infections.
Microbiology Applications	Norfloxacin is commonly used in clinical <i>in vitro</i> microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against gram positive and gram negative microbial isolates. Medical microbiologists use AST results to recommend antibiotic treatment options for infected patients. Representative MIC values include: <ul style="list-style-type: none">• <i>Escherichia coli</i> 0.25 µg/mL – 10 µg/mL• For a complete list of norfloxacin MIC values, click here.

Media Supplements

Norfloxacin can be used as a selective agent in several types of isolation media:

Clostridium difficile Agar - CDMN Selective Supplement

References:

Wolfson, John S., and David C. Hooper. "The Fluoroquinolones: Structures, Mechanisms of Action and Resistance, and Spectra of Activity in Vitro." *American Society for Microbiology* 4th ser. 28 (1985): 581-86.

Shen, Linus L., and Andre G. Pernet. "Mechanism of Inhibition of DNA Gyrase by Analogues of Nalidixic Acid: The Target of the Drugs Is DNA." *PNAS* 82 (1985): 307-11. Pnas.org. Web. 4 June 2013.

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