

Product Name:	Difloxacin hydrochloride
Product Number:	D021
CAS Number:	91296-86-5
Molecular Formula:	$C_{21}H_{19}F_2N_3O_3 \cdot HCl$
Molecular Weight:	435.85
Form:	Powder
Appearance:	White or cream-colored crystalline powder
Elemental Analysis:	Fluoride: $\geq 7.8\%$
pH:	3.0-5.0
Storage Conditions:	$< 30^{\circ}C$
Description:	Difloxacin HCl is a fluoroquinolone antibiotic commonly used in veterinary medicine. Difloxacin HCl is freely soluble in aqueous solution (5 mg/mL).
Mechanism of Action:	Fluoroquinolone antibiotics target bacterial DNA gyrase, an enzyme which reduces DNA strain during replication. Because DNA gyrase is required during DNA replication, subsequent DNA synthesis and ultimately cell division is inhibited.
Spectrum:	Difloxacin is a broad spectrum antibiotic targeting a wide variety of Gram negative and Gram positive bacteria. In addition, Difloxacin is also effective against a few Mycoplasma species including <i>Mycobacterium tuberculosis</i> .
Microbiology Applications	Difloxacin HCl 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>Mycobacterium tuberculosis</i> 0.5 $\mu g/mL$ – 8 $\mu g/mL$• <i>Escherichia coli</i> 0.1875 $\mu g/mL$• For a complete list of difloxacin MIC values, click here.
References:	Wolfson, John S., and David C. Hooper. "The Fluoroquinolones: Structures, Mechanisms of Action and Resistance, and Spectra of Activity in Vitro." <i>American Society for Microbiology</i> 4th ser. 28 (1985): 581-86.