



Danofloxacin Mesylate PRODUCT DATA SHEET

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Product Name:	Danofloxacin Mesylate
Product Number:	D090
CAS Number:	119478-55-6
Molecular Formula:	$C_{19}H_{20}FN_3O_3 \cdot CH_4O_3S$
Molecular Weight:	453.49
Form:	Powder
Appearance:	White to light yellow powder
Solubility:	Soluble in DMSO and methanol
Source:	Synthetic
Storage Conditions:	2-8 °C
Description:	Danofloxacin Mesylate is a synthetic, broad-spectrum fluoroquinolone with antibacterial activity. It is used in veterinary medical research applications. It is used to combat the organisms causing respiratory disease in cattle, chickens, and pigs.
Mechanism of Action:	Fluoroquinolone antibiotics target bacterial DNA gyrase (topoisomerase type II), an enzyme which reduces DNA strain during replication and is essential for DNA packaging, transcription, and replication. Thus, DNA synthesis and cell division is inhibited.
Spectrum:	Broad-spectrum, including Gram-positive and Gram-negative bacteria. Also effective for Mycoplasmas. Representative genera include Actinobacillus, Escherichia, Klebsiella, Mannheimia, Salmonella, and Staphylococcus.
Microbiology Applications	Danofloxacin is effective for cattle pathogens such as Pasteurella multocida, Mannheimia haemolytica, and Histophilus somni. Danofloxacin is highly active in vitro against Mycoplasma species that cause respiratory infections in cattle, pigs, and poultry (Cooper et al, 1993). Representative MIC values include: o Mycoplasma species 0.008 µg/mL – 0.5 µg/mL o Pasteurella mulltocida 0.00375-0.125 ug/ml o For a complete list of Danofloxacin MIC values, click here

References:

Cooper AC, Fuller JR, Fuller MK, Whittlestone P, and Wise DR (1993) In vitro activity of danofloxacin, tylosin and oxytetracycline against Mycoplasmas of veterinary importance. *Res. Vet. Sci* 54(3):329-334 PMID 8393208 Kawai K et al (2013) Antimicrobial susceptibilities of Mycoplasma isolated from bovine mastitis in Japan. *Animal Sci. J* 85(1):96-99 Raemdonck DL, Tanner AC, Tolling ST and Michener SL (1992) In vitro susceptibility of avian Escherichia coli and Pasteurella multocida to danofloxacin and five other antimicrobials. *Avian Dis.* 36(4):964-967 PMID 1336664 Yu CH et al (2013) Effect of danofloxacin on reactive oxygen species production, lipid peroxidation, and antioxidant enzyme activities in kidney tubular epithelial cell line, LLC-PK1. *Basic. Clin. Pharmacol. Toxicol.* 113(6):377-384. PMID 23855763

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