



Flumequine PRODUCT DATA SHEET

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Product Name:	Flumequine
Product Number:	F011
CAS Number:	42835-25-6
Molecular Formula:	$C_{14}H_{12}FNO_3$
Molecular Weight:	261.25
Form:	Powder
Appearance:	White Crystalline Powder
Solubility:	DMSO: Soluble Water: Insoluble Note: Soluble in alkaline solutions.
Source:	Synthetic
Melting Point:	253-255°C
Optical Rotation:	-0.1° to +0.1°
Storage Conditions:	Ambient
Description:	Flumequine is a broad-spectrum, first-generation fluoroquinolone commonly used in veterinary research for enteric infections. It was patented in 1973 by Riker Labs. Flumequine is freely soluble in alkaline solutions and alcohol. It is insoluble in water.
Mechanism of Action:	Fluoroquinolone antibiotics target bacterial DNA gyrase, a bacterial Topoisomerase II inhibitor, 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:	Flumequine targets primarily Gram-negative bacteria, especially those which cause enteric infections in animals (infections of the intestinal tract)..
Microbiology Applications	Flumequine is commonly used in clinical <i>in vitro</i> microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against Gram negative microbial isolates. Medical microbiologists use AST results to recommend antibiotic treatment options. Representative MIC values include: <ul style="list-style-type: none">• <i>Escherichia coli</i> 0.12 µg/mL – 0.5 µg/mL• For a representative list of Flumequine MIC values, click here.

References:

Hussy P, Maass G, Tümmler B, Grosse F, Schomburg U (1986) Effect of 4-quinolones and novobiocin on calf thymus DNA polymerase alpha primase complex, topoisomerases I and II, and growth of mammalian lymphoblasts. *Antimicrob. Agents Chemother.* 29(6):1073-1078 PMID 3015015

O'Neil MJ (ed) (2013) *The Merck Index- An encyclopedia of chemicals, drugs, and biologicals.* Royal Soc. Of Chemistry. Cambridge, UK. P. 759

Wolfson, JS and Hooper DC (1985) The fluoroquinolones: Structures, mechanisms of action and resistance, and spectra of activity *in vitro*. *Antimicrob. Agents Chemother.* 28(4):581-586

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