

Product Name:	Marbofloxacin
Product Number:	M014
CAS Number:	115550-35-1
Molecular Formula:	C ₁₇ H ₁₉ FN ₄ O ₄
Molecular Weight:	362.36
Form:	Powder
Appearance:	Light yellow crystalline powder
Solubility:	Water: Soluble
Source:	Synthetic
Melting Point:	268-269°C
Storage Conditions:	2-8°C
Description:	Marbofloxacin is broad-spectrum, third-generation fluoroquinolone antibiotic and is freely soluble in aqueous solution. It is commonly used in studying antimicrobial resistance and antimicrobial susceptibility testing.
Mechanism of Action:	Fluoroquinolone antibiotics target bacterial DNA gyrase, an enzyme which reduces DNA strain during replication. DNA gyrase is required during DNA replication, thus causes an inhibition of DNA synthesis and cell division..
Spectrum:	Marbofloxacin is a broad-spectrum antibiotic active against Gram-positive and Gram-negative bacteria including <i>Pseudomonas</i> and <i>Staphylococci</i> species. It is also active against <i>Mycoplasma</i> .
Microbiology Applications	<p>Marbofloxacin is commonly used for <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.</p> <p>Representative MIC values include:</p> <ul style="list-style-type: none"> • <i>Pseudomonas aeruginosa</i> 0.5 µg/mL • <i>Staphylococcus aureus</i> 0.25 µg/mL

For a representative list of Marbofloxacin MIC values, [click here](#).

The *in vitro* activity of Marbofloxacin, a quinolone, was evaluated on 124 anaerobic human strains isolated from the gut and testing revealed that Marbofloxacin was similar or superior to Ofloxacin for the whole anaerobes such as *Enterococcus*, *Enterobacteriaceae*, and *Lactobacillus* (Dubreuil et al, 1996).

References:

Dubreuil L, Houcke I and Leroy I (1996) *In vitro* activity of a new fluoroquinolone, marbofloxacin (RO 09-1168) against strictly anaerobic bacteria and some bacteria from human fecal flora. Pathol-biol. 44(5):333-336 PMID 8758470

Spring M, Deleforge J, Thomas V, Boismé B and Drugeon H (1995) Antibacterial activity of marbofloxacin. A new fluoroquinolone for veterinary use against canine and feline isolates. J. Vet. Pharmacol and Ther. 18(4):284-289 PMID 8583541

Wolfson, JS and David C. Hooper DC (1985) The Fluoroquinolones: Structures, mechanisms of action and resistance, and spectra of activity in vitro Antimicrob. Agents. Chemother. 28: 581-586 PMID 3000292

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