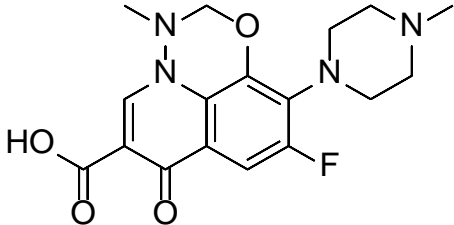


Product data sheet



MedKoo Cat#: 540280 Name: Marbofloxacin CAS: 115550-35-1 Chemical Formula: C ₁₇ H ₁₉ FN ₄ O ₄ Exact Mass: 362.139 Molecular Weight: 362.3614	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Marbofloxacin is a bacterial DNA gyrase inhibitor. It suppresses growth of Staphylococcus, Escherichia, Actinobacillus, Pasturella, and Mannheimia.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	30.0	82.79
DMSO	14.4	39.74
Ethanol	1.0	2.76
PBS (pH 7.2)	5.0	13.80

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.76 mL	13.80 mL	27.60 mL
5 mM	0.55 mL	2.76 mL	5.52 mL
10 mM	0.28 mL	1.38 mL	2.76 mL
50 mM	0.06 mL	0.28 mL	0.55 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

Andraud M, Chauvin C, Sanders P, Laurentie M. Pharmacodynamic modeling of in vitro activity of marbofloxacin against Escherichia coli strains. Antimicrob Agents Chemother. 2011 Feb;55(2):756-61. doi: 10.1128/AAC.00865-10. Epub 2010 Nov 15. PMID: 21078933; PMCID: PMC3028821.

In vivo study

Cao C, Qu Y, Sun M, Qiu Z, Huang X, Huai B, Lu Y, Zeng Z. In vivo antimicrobial activity of marbofloxacin against Pasteurella multocida in a tissue cage model in calves. Front Microbiol. 2015 Jul 24;6:759. doi: 10.3389/fmicb.2015.00759. PMID: 26257726; PMCID: PMC4513234.

7. Bioactivity

Biological target:

Marbofloxacin is a third generation fluoroquinolone and orally active antimicrobial agent, which has a broad spectrum bactericidal activity and good efficacy.

Product data sheet



In vitro activity

A mathematical pharmacodynamic model was developed to describe the bactericidal activity of marbofloxacin against *Escherichia coli* strains with reduced susceptibility levels (determined using MICs) under optimal and intestinal growth conditions. The bactericidal activity of marbofloxacin was closely associated with the concentration and the duration of exposure of the bacteria to the antimicrobial agent. The value of the concentration inducing a half-maximum effect (C(50)) was highly correlated with MIC values (R(2) = 0.87 and R(2) = 0.94 under intestinal and optimal conditions, respectively).

Reference: Antimicrob Agents Chemother. 2011 Feb;55(2):756-61. <https://pubmed.ncbi.nlm.nih.gov/21078933/>

In vivo activity

Calves were infected by direct injection into tissue cages with *P. multocida* (type B, serotype 2), then intramuscularly received a range of marbofloxacin doses 24 h after inoculation. The ratio of 24 h area under the concentration-time curve divided by the minimum inhibitory concentration or the mutant prevention concentration (AUC_{24 h}/MIC or AUC_{24 h}/MPC) was the pharmacokinetic-pharmacodynamic (PK/PD) index that best described the effectiveness of marbofloxacin against *P. multocida* (R (2) = 0.8514) by non-linear regression analysis. Marbofloxacin exhibited a good antimicrobial activity in vivo.

Reference: Front Microbiol. 2015 Jul 24;6:759. <https://pubmed.ncbi.nlm.nih.gov/26257726/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.