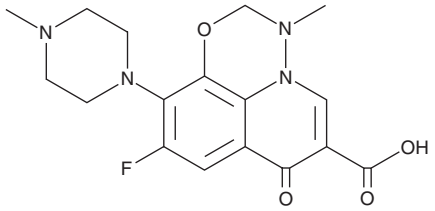
PRODUCT INFORMATION

Marbofloxacin

Item No. 24174

CAS Registry No.: 115550-35-1
Formal Name: 9-fluoro-2,3-dihydro-3-methyl-10-(4-methyl-1-piperazinyl)-7-oxo-7H-pyrido[3,2,1-ij][4,1,2]benzoxadiazine-6-carboxylic acid
MF: $C_{17}H_{19}FN_4O_4$
FW: 362.4
Purity: ≥98%
UV/Vis.: λ_{max}: 217, 304 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Marbofloxacin is supplied as a crystalline solid. A stock solution may be made by dissolving the marbofloxacin in the solvent of choice, which should be purged with an inert gas. Marbofloxacin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of marbofloxacin in these solvents is approximately 1, 25, and 30 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of marbofloxacin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of marbofloxacin in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Marbofloxacin is a fluoroquinolone antibiotic that is active against *P. multocida in vitro* (MIC = 0.016 µg/ml).[1] It exhibits broad-spectrum antibacterial activity mediated by the inhibition of DNA gyrase, with MIC values ranging from 0.016 to 0.4 and 0.19 to 1.7 µg/ml against various Gram-negative and Gram-positive bacterial isolates, respectively.[2] Intramuscular administration of marbofloxacin (2 mg/kg) after infection prevents the formation of pulmonary lesions in a bovine calf model of *M. haemolytica* A1 pneumonia.[3] Oral administration of marbofloxacin (2 mg/kg per day) also exhibits antileishmanial activity in a canine model of leishmaniasis, decreasing parasitic load by 72%.[4] Formulations containing marbofloxacin have been used in the veterinary treatment of bacterial infections.

References

1. Ferran, A.A., Toutain, P.L., and Bousquet-Mélou, A. *Vet. Microbiol.* **148(2-4)**, 292-297 (2011).
2. Spreng, M., Deleforge, J., Thomas, V., *et al. J. Vet. Pharmacol. Ther.* **18(4)**, 284-289 (1995).
3. Lhermie, G., Ferran, A.A., Assié, S., *et al. Front. Microbiol.* **237(7)**, (2016).
4. Pineda, C., Aguilera-Tejero, E., Morales, M.C., *et al. PLoS One* **12(10)**, e0185981 (2017).

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