

**In Vitro Antibacterial Activity**

The determination of minimum inhibitory concentrations (MIC), minimum bactericidal concentrations (MBC) and examination of time-kill kinetics are recognized in vitro methods. Together with other experimental data (plasma and tissue kinetics), they allow a rough prognosis of probable in vivo antimicrobial efficacy.

**Minimum Inhibitory Concentrations (MICs)**

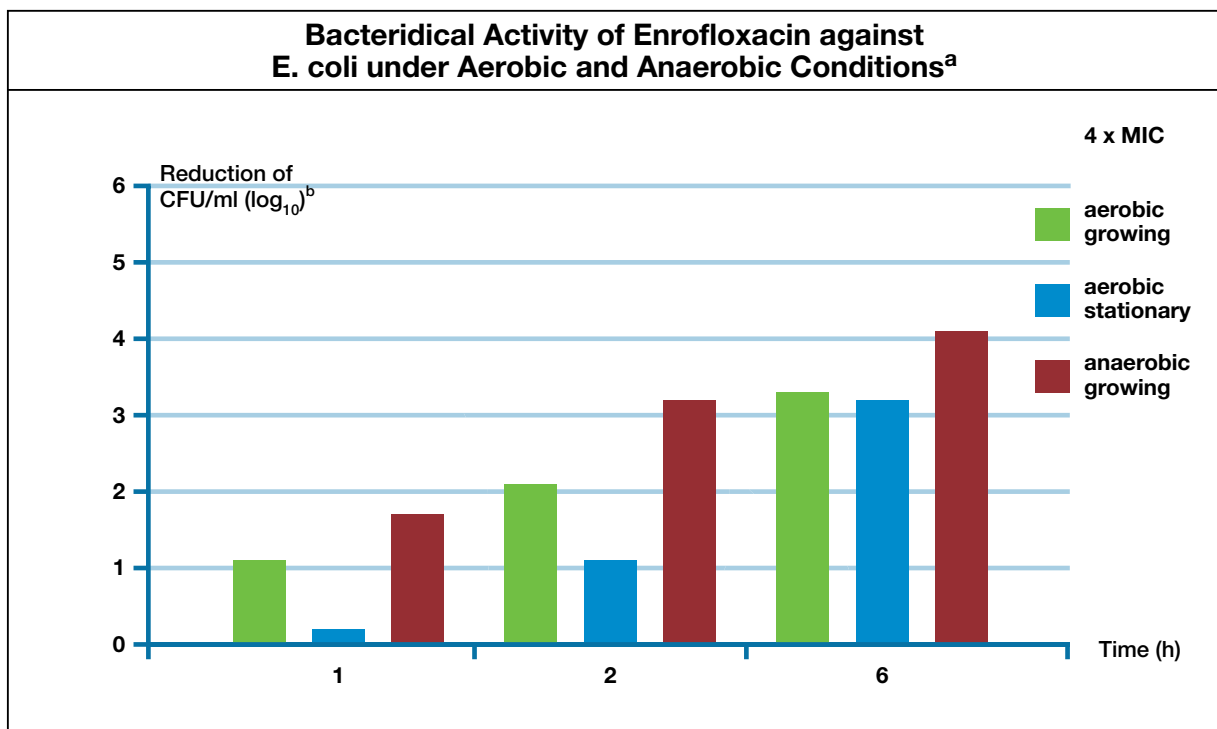
In the table, susceptibility data of bacteria isolated from clinical dog and cat patients against most popular antiinfectives in small animal practice are shown (8).

<b>MIC values for Baytril against isolates from clinical dog and cat patients (µg/ml)<sup>1</sup></b>				
<b>Organism</b>	<b>No. of isolates</b>	<b>Mic<sub>50</sub></b>	<b>Mic<sub>90</sub></b>	<b>Mode<sup>2</sup></b>
Staph. intermedius	119	0.12	0.50	0.12
Staphylococcus spp.	120	0.12	0.25	0.12
E.coli	138	0.03	0.06	0.03
Pasteurella spp.	16	0.015	0.03	0.015
Klebsiella pneumoniae	32	0.06	0.12	0.06
Bordetella spp.	25	0.50	0.50	0.5
Proteus spp.	88	0.12	0.25	0.12
Pseudomonas aeruginosa <sup>3</sup>	51	1.00	4.0	1.00
Enterococcus spp.	40	1.00	2.0	1.00
E.coli	76	0.25	0.5	0.25

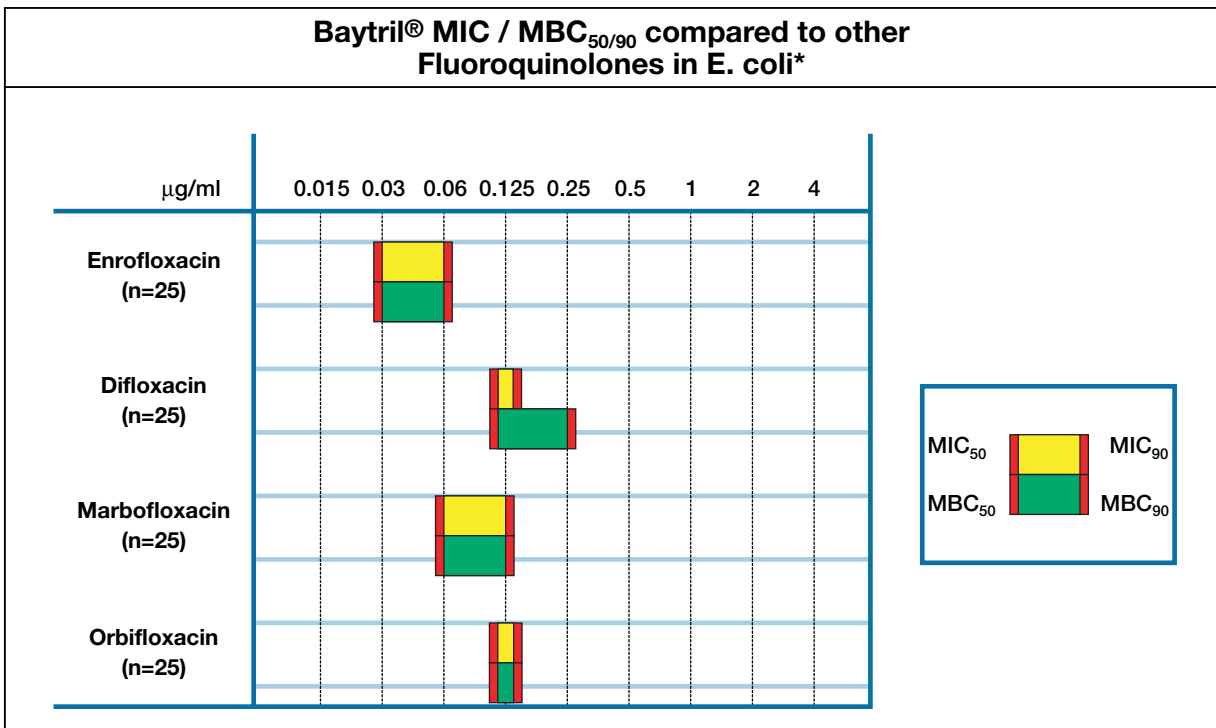
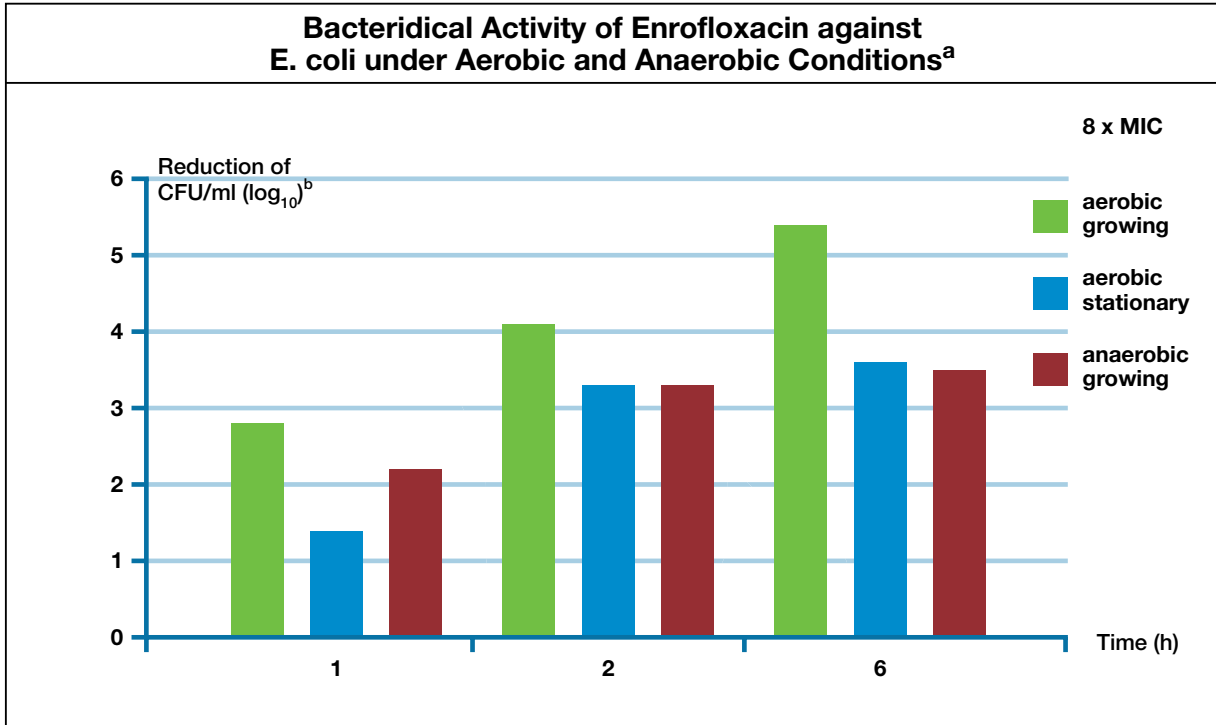
(8)  
 1. n = 720 diagnostic laboratory isolates. Data on file, Bayer Corporation 1997  
 2. Mode = most frequently occurring number  
 3. isolated from ears

**Minimum Bactericidal Concentrations (MBCs)**

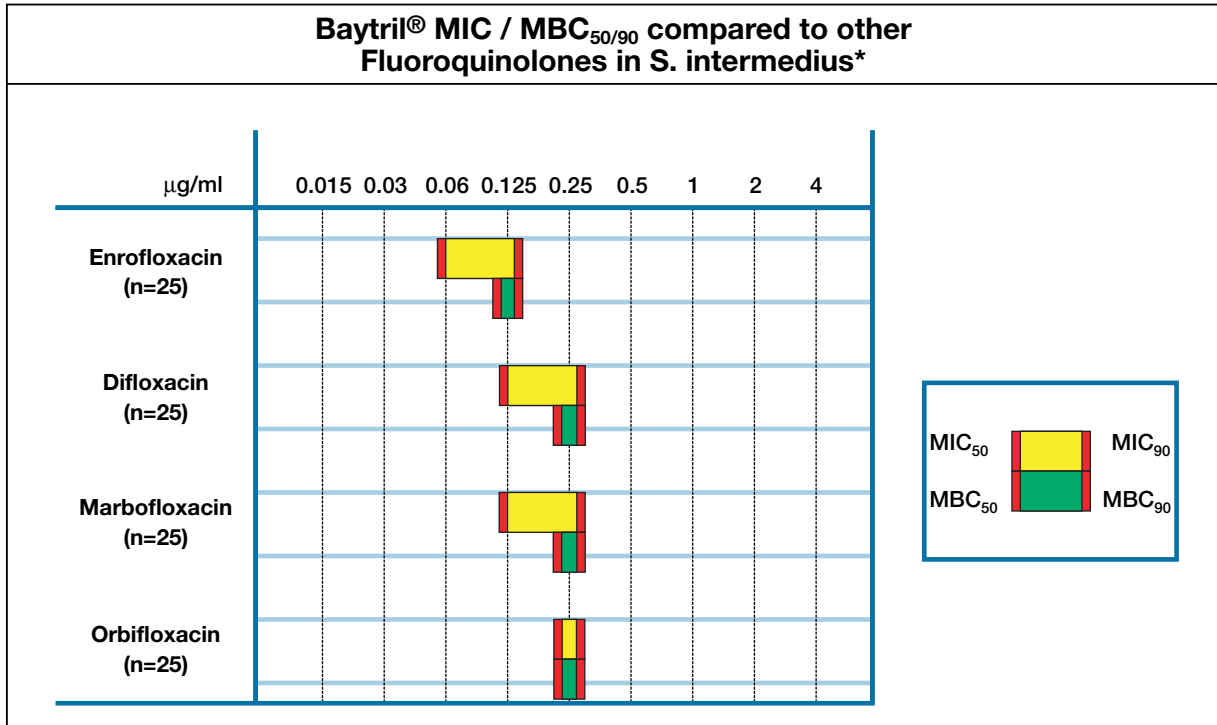
In immunocompromised patients suffering from chronic recurrent diseases, therapy with bactericidal antiinfectives is required. Plasma and tissue concentrations achieved with recommended doses of Baytril show a pronounced bactericidal effect against growing and stationary bacteria as well as a favourable antibacterial killing (7), (8). Baytril has also been demonstrated to exhibit strong bactericidal activity against bacteria such as *E. coli* growing under anaerobic culture conditions (7). Obligate anaerobes, however, such as the commensal gut flora, are not affected by Baytril.



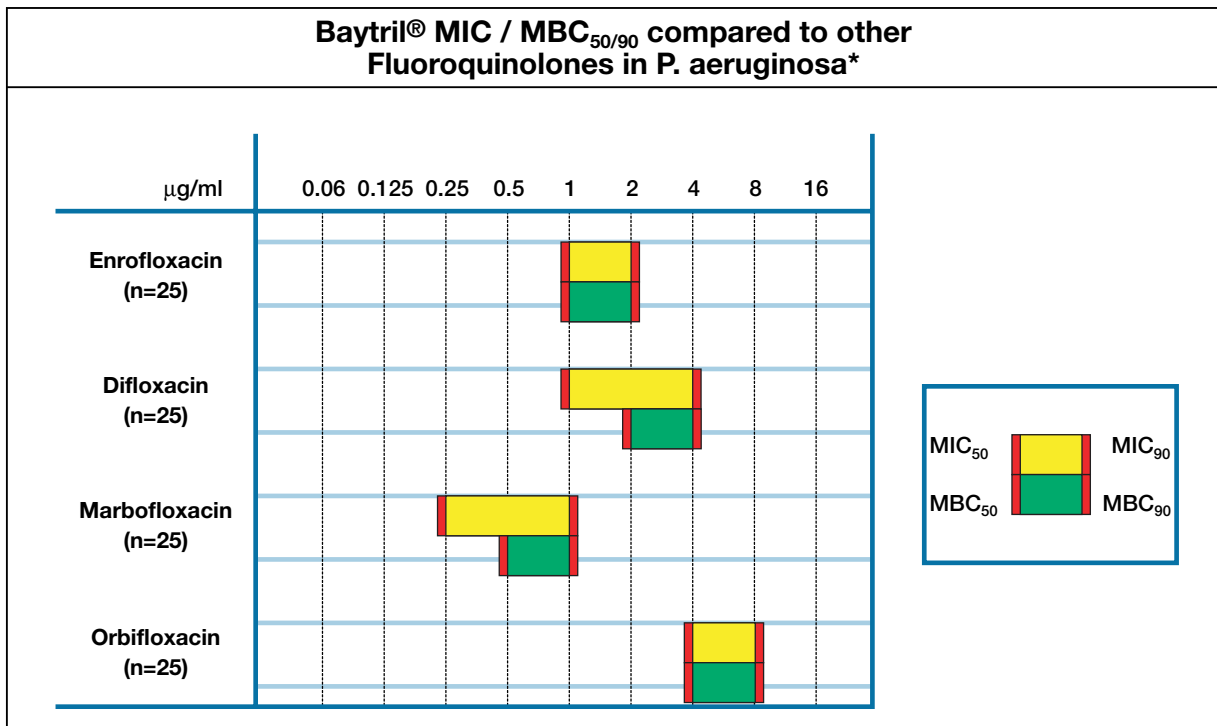
<sup>a</sup>Cell density was 10<sup>6-7</sup> CFU/ml. Upon exposure to enrofloxacin, cells were either growing or stationary.  
<sup>b</sup>log<sub>10</sub> reductions are given as average of the observed range. All assays were run in duplicate at 37°C.



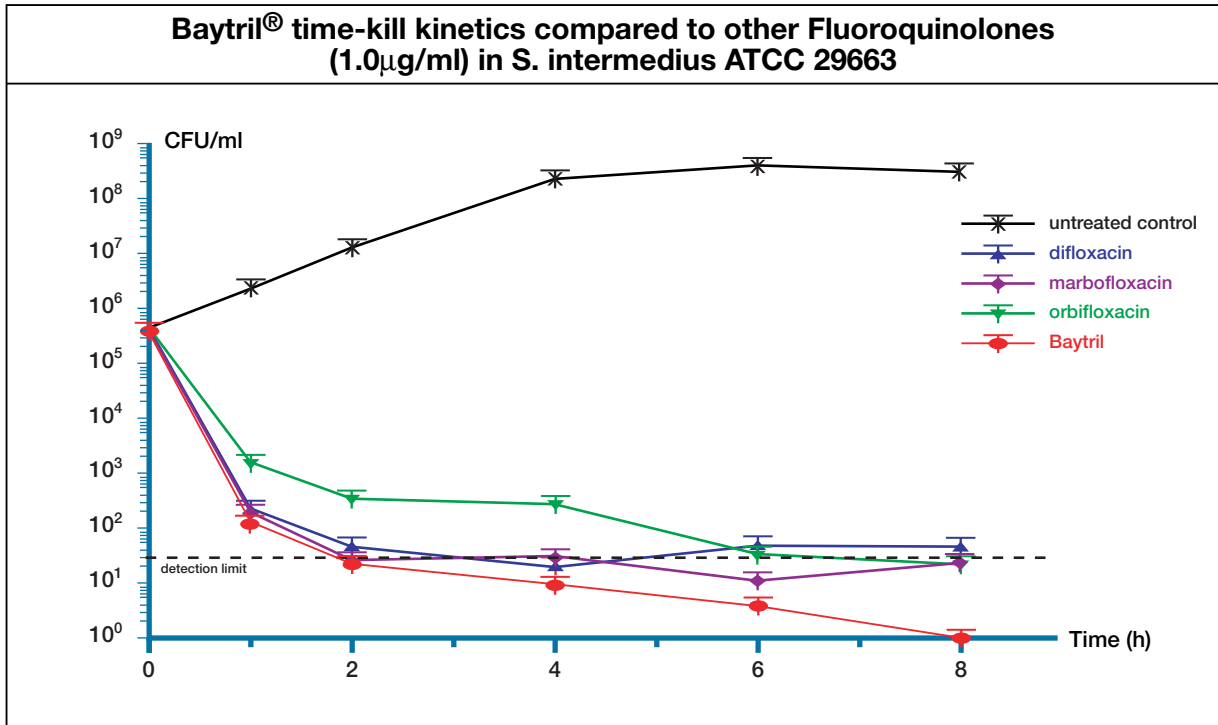
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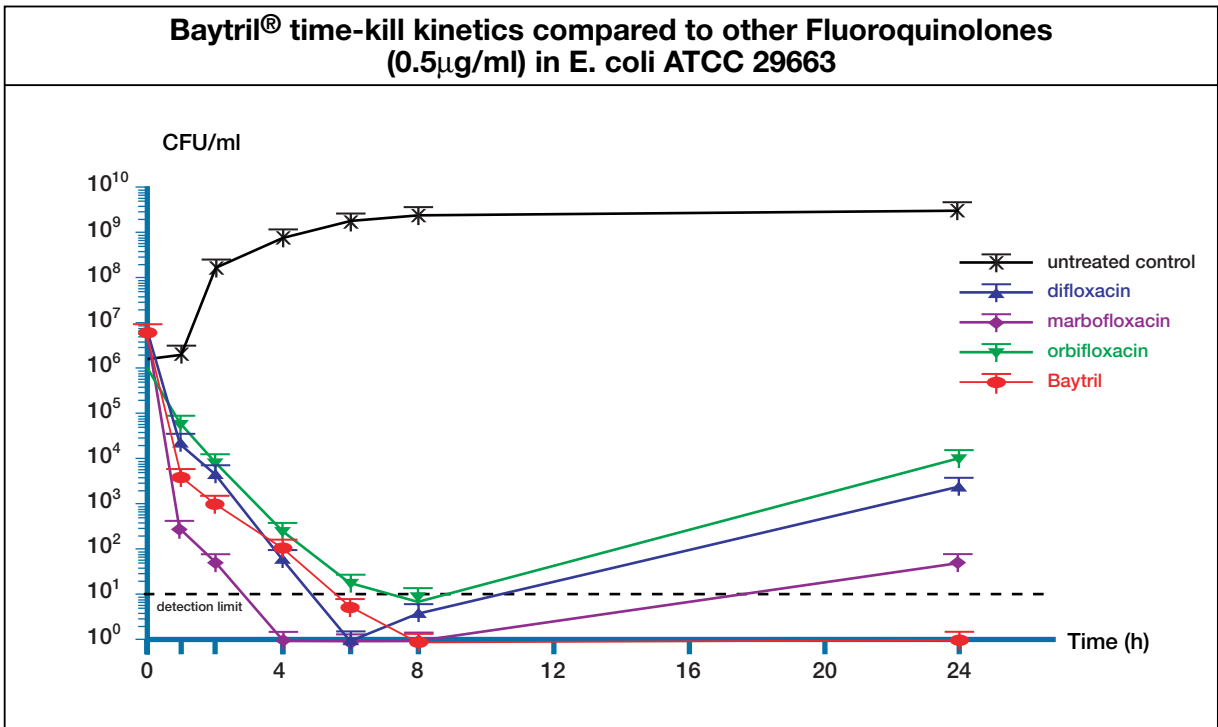
Pirro et al., 1999. (8)  
\*isolates from clinical patients and necropsy material



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Pirro et al., 1999. (8)



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**References:**

**6/6**

- (7) Wetzstein HG, DeJong A: In vitro bactericidal activity and post antibiotic effect of fluoroquinolones used in veterinary medicine. Suppl Compend Contin Educ Pract Vet 18 (2): 22-29, 1996.
- (8) Pirro F, Edingloh M, Schmeer N: Bactericidal and inhibitory activity of enrofloxacin and other fluoroquinolones in small animal pathogens.: Suppl Compend Contin Educ Pract Vet 21 (12): 19-25, 1999.