

Breakpoints

Table 1. Interpretive Criteria Used for Susceptibility Testing of *Salmonella* and *E. coli* ¹

Antimicrobial Class	Antimicrobial Agent	Breakpoints (µg/ml)		
		Susceptible	Intermediate	Resistant
Aminoglycosides	Gentamicin	≤ 4	8	≥ 16
	Streptomycin before 2014 beginning in 2014	≤ 32 ≤ 16	N/A N/A	≥ 64 ≥ 32
β-Lactam/β-Lactamase Inhibitor Combinations	Amoxicillin–Clavulanic Acid	≤ 8 / 4	16 / 8	≥ 32 / 16
Cephems	Cefoxitin	≤ 8	16	≥ 32
	Ceftiofur	≤ 2	4	≥ 8
	Ceftriaxone	≤ 1	2	≥ 4
Folate Pathway Inhibitors	Sulfamethoxazole/Sulfisoxazole ²	≤ 256	N/A	≥ 512
	Trimethoprim–Sulfamethoxazole	≤ 2 / 38	N/A	≥ 4 / 76
Macrolides	Azithromycin	≤ 16	N/A	≥ 32
Penicillins	Ampicillin	≤ 8	16	≥ 32
Phenicols	Chloramphenicol	≤ 8	16	≥ 32
Quinolones	Ciprofloxacin ³	≤ 0.06	≥ 0.12	
	Nalidixic acid	≤ 16	N/A	≥ 32
Tetracyclines	Tetracycline	≤ 4	8	≥ 16

¹ Breakpoints were adopted from CLSI (Clinical and Laboratory Standards Institute) M100-S26 document, except for streptomycin and azithromycin, which has no CLSI breakpoints

² Sulfamethoxazole was tested from 1996 through 2003 and was replaced by sulfisoxazole in 2004

³ In 2012, the Clinical and Laboratory Standards Institute (CLSI)'s M100-S27 expanded the Minimum Inhibitory Concentration (MIC) range that defines the intermediate susceptibility category for ciprofloxacin. We now use decreased susceptibility to ciprofloxacin (DSC, MIC >= 0.12 ug/ml) as a marker for emerging fluoroquinolone resistance (CLSI, 2017)

Table 2. Interpretive Criteria Used for Susceptibility Testing of *Campylobacter* ¹

Antimicrobial Class	Antimicrobial Agent	Breakpoints (µg/ml)			
		<i>C. jejuni</i>		<i>C. coli</i>	
		Susceptible	Resistant	Susceptible	Resistant
Aminoglycosides	Gentamicin	≤ 2	≥ 4	≤ 2	≥ 4
Ketolides	Telithromycin	≤ 4	≥ 8	≤ 4	≥ 8
Lincosamides	Clindamycin	≤ 0.5	≥ 1	≤ 1	≥ 2
Macrolides	Azithromycin	≤ 0.25	≥ 0.5	≤ 0.5	≥ 1
	Erythromycin	≤ 4	≥ 8	≤ 8	≥ 16
Phenicol	Chloramphenicol	≤ 16	≥ 32	≤ 16	≥ 32
	Florfenicol	≤ 4	≥ 8	≤ 4	≥ 8
Quinolones	Ciprofloxacin	≤ 0.5	≥ 1	≤ 0.5	≥ 1
	Nalidixic acid	≤ 16	≥ 32	≤ 16	≥ 32
Tetracyclines	Doxycycline	≤ 0.5	≥ 1	≤ 1	≥ 2
	Tetracycline	≤ 1	≥ 2	≤ 2	≥ 4

¹ Breakpoints were adopted from epidemiological cut off values

Table 3. Interpretive Criteria Used for Susceptibility Testing of *Enterococcus* ¹

Antimicrobial Class	Antimicrobial Agent	Breakpoints (µg/ml)		
		Susceptible	Intermediate	Resistant
Aminoglycosides	Gentamicin	≤ 500	N/A	>500
	Kanamycin ²	≤ 512	N/A	≥ 1024
	Streptomycin	≤ 512	N/A	≥ 1024
Glycopeptides	Vancomycin	≤ 4	8 -16	≥ 32
Glycylcycline	Tigecycline ^{2,3}	≤ 0.25	N/A	N/A
Lincosamides	Lincomycin ²	≤ 2	4	≥ 8
Lipopeptides	Daptomycin ⁴	≤ 4	N/A	N/A
Macrolides	Erythromycin	≤ 0.5	1 - 4	≥ 8
	Tylosin ²	≤ 8	16	≥ 32
Nitrofurans	Nitrofurantoin	≤ 32	64	≥ 128
Oxazolidinones	Linezolid	≤ 2	4	≥ 8
Penicillins	Penicillin	≤ 8	N/A	≥ 16
Phenicol	Chloramphenicol	≤ 8	16	≥ 32
Quinolone	Ciprofloxacin	≤ 1	2	≥ 4
Streptogramins	Quinupristin/Dalfopristin	≤ 1	2	≥ 4
Tetracyclines	Tetracycline	≤ 4	8	≥ 16

¹ Breakpoints were adopted from CLSI (Clinical and Laboratory Standards Institute) M100-S26 document, where available

² No CLSI interpretive criteria for this bacterium/antimicrobial combination currently available

³ Only a susceptible breakpoint (≤0.25 µg/ml) has been established. Isolates with an MIC ≥0.5 µg/ml are reported as resistant

⁴ Only a susceptible breakpoint (≤4 µg/ml) has been established for *E. faecalis*. Isolates with an MIC ≥8 µg/ml are reported as resistant. There are no established CLSI breakpoints for *E. faecium* and *E. hirae*