

## Breakpoints

Table 1. Interpretive Categories Used for Susceptibility Testing of *Salmonella* and *E. coli*<sup>1</sup>

Antimicrobial Class	Antimicrobial Agent	Breakpoints (µg/ml)		
		Susceptible	Intermediate	Resistant
Aminoglycosides	Gentamicin	≤ 4	8	≥ 16
	Streptomycin before 2014	≤ 32	N/A	≥ 64
	Streptomycin beginning in 2014	≤ 16	N/A	≥ 32
β-Lactam/β-Lactamase Inhibitor Combinations	Amoxicillin–Clavulanic Acid	≤ 8 / 4	16 / 8	≥ 32 / 16
Carbapenem	Meropenem	≤ 1	2	≥ 4
Cephems	Cefoxitin	≤ 8	16	≥ 32
	Ceftriaxone	≤ 1	2	≥ 4
Folate Pathway Inhibitors	Sulfamethoxazole/Sulfisoxazole <sup>2</sup>	≤ 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
Polymyxin	Colistin	N/A	≤ 2	≥ 4
Quinolones	Ciprofloxacin <sup>3</sup>	≤ 0.06	≥ 0.12	≥ 0.12
	Nalidixic acid	≤ 16	N/A	≥ 32
Tetracyclines	Tetracycline	≤ 4	8	≥ 16

<sup>1</sup> Breakpoints were adopted from CLSI (Clinical and Laboratory Standards Institute) M100-Ed30 document, except for streptomycin and azithromycin, which has no CLSI breakpoint

<sup>2</sup> Sulfamethoxazole was tested from 1996 through 2003 and was replaced by sulfisoxazole in 2004

<sup>3</sup> 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 µg/ml) as a marker for emerging fluoroquinolone resistance (CLSI, 2017)

**Table 2. Interpretive Categories Used for Susceptibility Testing of *Campylobacter*<sup>1</sup>**

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

<sup>1</sup>Breakpoints were adopted from epidemiological cut off values

**Table 3. Interpretive Categories Used for Susceptibility Testing of *Enterococcus*<sup>1</sup>**

Antimicrobial Class	Antimicrobial Agent	Breakpoints (µg/ml)		
		Susceptible	Intermediate	Resistant
Aminoglycosides	Gentamicin	≤ 500	N/A	>500
	Streptomycin	≤ 512	N/A	≥ 1024
Glycopeptides	Vancomycin	≤ 4	8 -16	≥ 32
Glycylcycline	Tigecycline <sup>2,3</sup>	≤ 0.25	N/A	≥ 0.5
Lipopeptides	Daptomycin <sup>4</sup> ( <i>E. faecium</i> only)	≤ 4	N/A	≥ 8
	Daptomycin <sup>4</sup> ( <i>Enterococcus</i> spp. other than <i>E. faecium</i> )	≤ 2	4	≥ 8
Macrolides	Erythromycin	≤ 0.5	1 - 4	≥ 8
Nitrofurans	Nitrofurantoin	≤ 32	64	≥ 128
Orthosomycin	Avilamycin <sup>2</sup>	N/A	N/A	≥ 16
Oxazolidinones	Linezolid	≤ 2	4	≥ 8
Penicillins	Ampicillin	≤ 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

<sup>1</sup> Breakpoints were adopted from CLSI (Clinical and Laboratory Standards Institute) M100-Ed30 document, where available

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

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

<sup>4</sup> In 2020, the Clinical and Laboratory Standards Institute (CLSI)'s M100-Ed30 expanded the interpretive criteria for daptomycin to all enterococcal species