Intrinsic Resistance of Antibiotics

JANUARY - DECEMBER 2017	Aminoglycosides			Penicillins					Cephalosporins						Carbapenems			Quinolones		Tetracyclines		Others								
GRAM NEGATIVE RODS % SUSCEPTIBLE (of isolates tested) [b]	Amikacin	Gentamicin	Tobramycin	Penicillin	Ampicillin	Ampicillin-Sulbactam	Amoxicillin-Clavulanate	Piperacillin-Tazobactam	Cefazolin	Cefoxitin	Cefuroxime	Ceftriaxone	Ceftazidime	Cefepime	Imipenem-Cilastatin	Ertapenem	Meropenem	Ciprofloxacin	Levofloxacin	Tetracycline/Tigecycline	Doxycycline	Colistin	Fosfomycin	Clindamycin	Erythromycin	Aztreonam	Nitrofurantoin (Urine isolates only)	Rifampin	Trimethoprim-Sulfamethoxazole	Vancomycin
Acinetobacter baumannii						a																							
Bacteroides species																													
Burkholderia cepacia complex																													
Citrobacter freundii																													
Citrobacter koseri																													
Enterobacter cloacae																													
Escherichia coli																													
Escherichia hermannii																													
Fusobacterium canifelinum																													
Hafnia alvei																													
Klebsiella (formerly Enterobacter) aerogenes																													
Klebsiella pneumoniae																													
Morganella morgannii															b														
Proteus mirabilis															b														
Proteus peneri															b														
Proteus vulgaris															b														
Providencia rettgeri															b														
Providencia stuartii		d	d												b														
Pseudomonas aeruginosa																													
Salmonella and Shigella	Warning								Warning																c				
Serratia marcescens																													
Stenotrophomonas maltophilia																				e									
Yersinia enterocolitica																													

GRAM POSITIVE ORGANISMS % SUSCEPTIBLE (of isolates tested)																													
Clostridium species																													
Clostridium innocuum																													
Enterococcus faecalis																													
Enterococcus faecium																													
Enterococcus gallinarium/casseliflavus																													
Streptococcus pneumoniae																													
Anginosus group streptococci																													
Staphylococcus aureus																													
Staphylococcus epidermidis																													
Staphylococcus capitis																													
Staphylococcus lugdunensis																													
Staphylococcus saprophyticus																													
Staphylococcus haemolyticus																													

NOTE: IMPORTANT EDUCATION: denotes intrinsic resistance for that antibiotic and pathogen combination. The absence of a red box means that intrinsic resistance has not been found, but does NOT mean that resistance may not be present.

a= A. baumannii/calcoaceticus may appear to be susceptible to ampicillin-sulbactam due to the activity of sulbactam with this species. b= Proteus species, Providencia species, Morganella species may have elevated minimal inhibitory concentrations to imipenem-cilastatin by mechanisms other than by production of carbepenemases. Isolates that test as susceptible should be reported as susceptible. c=Salmonella and Shigella spp. be sensitive to azithromycin; d= P. stuartii should be considered resistant to gentamicin and tobramycin, but not intrisically resistant to amikacin. e= S. maltophilia is intrinsically resistant to tetracycline, but not to doxycycline, minocycline or tigecycline. WARNING = For Salmonella and Shigella species, aminoglycosides, first and second generation cephalosporins, and cephamycins may appear active in vitro, but are not effective clinicallly and should not be reported as susceptible.

Adapted from the M100 CLSI Document: CLSI. Performance Standards for Antimicrobial Susceptibility Testing. 28th ed. CLSI supplement M100. Wayne, PA: Clinical and Laboratory Standards Institute; 2018.