

### Detection of β-lactam Resistance Phenotypes in Enterobacteriaceae

	AMP	AMC	CLOT	CAZ	FEP	FOX	CAZ+CLAV FEP+CLAV	IMI	IMI+ EDTA MRP+DPA	CLOXA Boronic	Comments
<b>1) E. coli / P. mirabilis / Salmonella spp. / Shigella spp. / Klebsiella spp., /C. diversus</b>											
Penicillinase low (E. coli)	I/R	S/I	S	S	S	S		S			
Penicillinase high	R	R	R	S	S	S		S			
Cephalosporinase low	S/I	S/I	I/R	S	S	S		S			
AmpC high / plasmid	R	R	R	I/R	S	I/R		S		synergy CAZ or CTX	FOX antagonism with CAZ or FEP indicates inducible
AmpC + ESBL	R	R	R	R	S/R	R	Synergy	S		synergy CAZ or CTX	
IRT	R	R	S/I	S	> CAZ (zone)			S			
Oxacillinase	R	R	S/I	S	≤ CAZ (zone)			S			
Penicillinase + Cephalosporinase	R	R	R	S/I	S	I/R		S			
Chromosomal K-1 high (Klebsiella oxytoca)	R	I/R	R	S	S/I	S	false synergy FEP+CLAV	S			
ESBL	R	V/R	I/R	V/R	V/R	S/R	synergy	S			
Metallo-β-lactamase	R	R	R	I/R	I/R	R	-	S/R	Synergy		AZT S <sup>R</sup>
Carbapenemase class A KPC	R	S/R	R	I/R	I/R	R		I/R (syn CLAV)		No synergy CLOXA with MRP	Synergy: IMI OR MRP with BORONIC
<b>2) Enterobacter spp. / C. freundii</b>											
Penicillinase	R	R	R	S	S	R		S			
AmpC derepressed	R	R	R	R	S	R		S		syn CTX syn CAZ	
AmpC + ESBL	R	R	R	R	S/R	R	Synergy	S		syn CTX syn CAZ	
ESBL, Metallo-β-lactamase and Carbapenemases	As for <i>E. coli</i> etc.										
<b>3) M. morgani / Providencia spp. / Serratia spp.</b>											
Penicillinase	R	R	R	S	S	R		S			
Amp C derepressed	R	R	R	R	S	I/R		S		syn CTX syn CAZ	
ESBL, Metallo-β-lactamase and Carbapenemases	As for <i>E. coli</i> etc.										

# Detection of resistance mechanisms using Neo-Sensitabs™ and Diatabs™

## Detection of beta lactamases

## Detection of beta-lactam resistance phenotypes in Enterobacteriaceae

4) <i>P. vulgaris</i> / <i>P. penneri</i>											
Penicillinase	R	S	R	S	S	S		S			
Chromosomal β-lactamase derepressed	R	S	R	R	S	S		S			

AMP; Ampicillin, AMC; Amoxicillin – clavulanic acid, CLOT; Cephalothin, CAZ; Ceftazidime, FEP; Cefepime, FOX; Cefoxitin, CAZ+CLAV; Ceftazidime + clavulanic acid, FEP+CLAV; Cefepime + clavulanic acid, IMI; Imipenem, IMI+EDTA; Imipenem+EDTA, Cloxa ; Cloxacillin, AZT; Aztreonam; CTX=Cefotaxime;MRP=Meropenem.