Supplementary Table 1: Resistance mechanisms and carbapenem MICs of *Enterobacteriaceae* yielding false, doubtful or non-interpretable results with one of the four evaluated assays.

| **Species** | **Carbapenemase production** | **Other resistance mechanisms** | **MIC (µg/ml) Imipenem** | **MIC (µg/ml) Meropenem** | **MIC (µg/ml) Ertapenem** | **BYG** | **BCT** | **RCNP** | **NRCK** |
|---|---|---|---|---|---|---|---|---|---|
| *K. pneumoniae* | None | DHA | 0,25 | 0,047 | 0,38 | **P** | N | N | N |
| *E. cloacae* | None | AmpC overexpression and phenotypically assessed impermeability | 0,75 | 0,25 | 2 | N | **D** | N | N |
| *K. oxytoca* | None | K-OXY overexpression | 0,19 | 0,064 | 0,032 | N | **D** | N | N |
| *K. pneumoniae* | KPC-3 | | > 32 | > 32 | > 32 | P | **D** | P | P |
| *K. pneumoniae* | OXA-48 | DHA, CTX-M9 | 0,75 | 0,5 | 2 | P | **D** | P | P |
| *E. coli* | OXA-48 | | 3 | 0,5 | 0,5 | P | **D** | P | P |
| *E. cloacae* | None | AmpC overexpression and phenotypically assessed impermeability | 1 | 0,19 | 0,5 | N | N | **D** | N |
| *K. pneumoniae* | None | DHA | 0,38 | 0,047 | 0,5 | N | N | **D** | N |
| *K. pneumoniae* | None | ESBL and phenotypically assessed impermeability | 0,5 | 1,5 | 6 | N | N | **D** | N |
| *K. pneumoniae* | None | CTX-M1 and phenotypically assessed impermeability | 0,75 | 3 | 24 | N | N | **D** | N |
| *K. pneumoniae* | None | CTX-M1 and phenotypically assessed impermeability | 1,5 | 6 | >32 | N | N | **D** | N |
| *E. coli* | None | CTX-M1 | 0,25 | 0,032 | 0,006 | N | N | **D** | N |
| *E. aerogenes* | None | AmpC overexpression | 0,5 | 0,38 | 1,5 | N | N | **D** | N |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *K. pneumoniae* | None | DHA | 0,25 | 0,094 | 0,38 | N | N | **D** | N |
| *K. pneumoniae* | None | ESBL and phenotypically assessed impermeability | 0,25 | 1 | 3 | N | N | **D** | N |
| *E. cloacae* | None | AmpC overexpression and phenotypically assessed impermeability | 2 | 1 | 2 | N | N | **D** | N |
| *K. pneumoniae* | None | Phenotypically assessed impermeability | 1 | 2 | 24 | N | N | **D** | N |
| *E. coli* | None | CMY-2, ESBL (CTX-M1) | 0,38 | 0,047 | 0,25 | N | N | **D** | N |
| *E. cloacae* | None | AmpC overexpression, ESBL and phenotypically assessed impermeability | 2 (0,5) | 0,25 | 1 | N | N | **D** | N |
| *E. cloacae* | OXA-48 | CTX-M1 | 1,5 | 0,75 | 3 | P | P | **D** | P |
| *K. pneumoniae* | OXA-48 | CTX-M1 | 3 | 1 | 1,5 | P | P | **D** | P |
| *K. pneumoniae* | OXA-48 | CTX-M1 | 0,38 | 0,38 | 0,75 | P | P | **D** | P |
| *E. coli* | OXA-48 | CTX-M1 | 1,5 | 0,25 | 0,38 | P | P | **D** | **D** |
| *E. coli* | OXA-48 | | 3 | 0,5 | 1,5 | P | P | **D** | **D** |
| *K. pneumoniae* | OXA-48 | | 1,5 | 0,38 | 0,38 | P | P | **D** | **D** |
| *K. pneumoniae* | OXA-48 | ESBL | 2 | 1 | 0,75 | P | P | **D** | **D** |
| *E. cloacae* | OXA-48 | CTX-M9 | 2 | 2 | 6 | P | P | **D** | **D** |
| *E. cloacae* | OXA-48 | CTX-M9, SHV | 24 | 32 | > 32 | P | P | **D** | **D** |
| *K. pneumoniae* | None | ESBL | 0,25 | 0,38 | 1 | N | N | N | **D** |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *E. coli* | None | CTX-M1 and phenotypically assessed impermeability | 1 | 3 | 16 | N | N | N | **D** |
| *E. aerogenes* | None | ESBL and phenotypically assessed impermeability | 16 | 4 | > 32 | N | N | N | **D** |
| *S. marcescens* | None | AmpC overexpression and phenotypically assessed impermeability | 6 | 3 | > 32 | N | N | N | **D** |
| *K. pneumoniae* | OXA-48 | CTX-M1 | 0,75 | 0,5 | 1,5 | P | P | P | **D** |
| *K. pneumoniae* | OXA-48 | CTX-M1 | 0,75 | 0,5 | 1 | P | P | P | **D** |
| *K. pneumoniae* | OXA-48 | | 1,5 | 1,5 | 1 | P | P | P | **D** |
| *K. pneumoniae* | None | ESBL | 0,125 | 0,016 | 0,023 | N | N | **D** | **NI** |
| *K. pneumoniae* | None | DHA and phenotypically assessed impermeability | 6 | 2 | > 32 | N | N | N | **NI** |
| *K. pneumoniae* | None | DHA | 0,75 | 0,19 | 0,38 | N | N | N | **NI** |
| *K. pneumoniae* | OXA-48 | CTX-M1 | 1 | 0,5 | 1,5 | P | P | P | **NI** |
| *E. cloacae* | None | AmpC overexpression | 0,5 | 0,38 | 0,38 | N | N | N | **NI** |
| *E. cloacae* | None | AmpC overexpression and phenotypically assessed impermeability | 0,5 | 0,25 | 1,5 | N | N | N | **NI** |
| *E. coli* | OXA-48 | CTX-M1 | 1,5 | 0,19 | 0,38 | P | P | P | **N** |
| *K. pneumoniae* | OXA-48 | CTX-M1 | 1 | 1,5 | 1,5 | P | P | P | **N** |

P = positive ; N = negative; D = doubtful ; NI = non-interpretable