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Evolution of *Klebsiella pneumoniae* Sequence Type 512 during Ceftazidime/Avibactam, Meropenem/Vaborbactam, and Cefiderocol Treatment, Italy

Appendix 2

Appendix 2 Table 1. Sample type, day of isolate collection, resistance genes, and replicon content identified in *Klebsiella pneumoniae* sequence type 512 genomes analyzed in this study*

Isolate	Sample source	Collection day	β -lactamases	Other acquired resistance genes	Replicon content
6379	RS	1	<i>bla</i> _{KPC-3} , <i>bla</i> _{SHV-12} , <i>bla</i> _{TEM-1A} , <i>bla</i> _{VIM-1}	<i>aac(6')-lb</i> , <i>aac(6')-lb3</i> , <i>aadA1</i> , <i>aph(3')-XV</i> , <i>catB2</i> , <i>dfrA14</i> , <i>mph(A)</i> , Δ <i>qacE</i> , <i>sul1</i>	ColRNAI, IncA, IncFIB(K), IncFII(K), IncFIB(pQil), IncX3
1186B	RS	24	<i>bla</i> _{KPC-31} , <i>bla</i> _{TEM-1A}	<i>aac(6')-lb</i> , <i>aph(3')-la</i> , <i>mph(A)</i>	ColRNAI, IncFIB(K),† IncFII(K),† IncFIB(pQil),† IncX3
1186T	RS	24	<i>bla</i> _{KPC-31} , <i>bla</i> _{TEM-1A}	<i>aac(6')-lb</i> , <i>aph(3')-la</i> , <i>mph(A)</i>	ColRNAI, IncFIB(K),† IncFIB(pQil), IncFII(K), IncX3
6099	RT	51	<i>bla</i> _{KPC-154} , <i>bla</i> _{TEM-1A}	None	IncFIB(K), IncFIB(pQil), IncX3
0296	RT	88	<i>bla</i> _{KPC-3} , <i>bla</i> _{SHV-12} , <i>bla</i> _{TEM-1A} , <i>bla</i> _{VIM-1}	<i>aac(6')-lb</i> , <i>aac(6')-lb3</i> , <i>aadA1</i> , <i>aadA2</i> , <i>aph(3')-la</i> , <i>aph(3')-XV</i> , <i>catB2</i> , <i>catA1</i> , <i>dfrA14</i> , <i>dfrA12</i> , <i>mph(A)</i> , <i>mph(A)</i> , Δ <i>qacE</i> , Δ <i>qacE</i> , <i>sul1</i> , <i>sul1</i>	ColRNAI, IncA, IncFIB(K),‡ IncFII(K),‡ IncFIB(pQil),‡ IncX3

*Virulence and resistance genes were identified by using Kleborate (28, main text) software and replicons were identified by using PlasmidFinder (26, main text). RS, rectal swab sample, RT, respiratory tract sample.

†Replicon integrated in the chromosome.

‡pKpQIL-pKPN fused plasmid.

Appendix 2 Table 2. MICs of antimicrobial drugs used to treat *Escherichia coli* recombinant clones carrying *bla*_{KPC} gene variants KPC-31 and KPC-154 from *Klebsiella pneumoniae* sequence type 512*

Antimicrobial drugs	MIC (mg/L)	
	KPC-31	KPC-154
AUG	≤8	>32
AZT	≤1	>4
CFZ	≤16	>16
CPE	≤0,5	2
CZA	>8	8
ETP	≤0.12	≤0.12
MEM	≤0.12	≤0.12
P/T	≤8	16

*Gene variants from *K. pneumoniae* were cloned into pCR-Blunt II TOPO-NeoR Vector (Thermo Fisher Scientific, <https://www.thermofisher.com>). AUG, amoxicillin/clavulanic acid; AZT, aztreonam; CFZ, cefazolin; CPE, cefepime; CZA, ceftazidime/avibactam; ETP, ertapenem; MEM, meropenem; P/T, piperacillin/tazobactam.