

1 Supplement Table1. Informations of 58 isolates in this study

Strain No	Carbapenemase	ST type	specimen	MEM	TGC	COL	AK	IPM	ETP	FOX	TZP	CAZ	FEP	LVX
D07	KPC-2	ST69	BALF	8	0.25	0.5	32	8	16	>256	>256	128	64	0.5
D16	KPC-2	ST14	BALF	64	0.5	1	8	16	64	64	>256	64	64	8
D52	KPC-2	ST65	sputum	16	0.5	0.5	>256	4	8	16	>256	32	16	0.064
D56	KPC-2	ST147	bile	16	2	0.5	2	4	16	32	256	32	16	32
H057	KPC-2	ST37	abscess	64	0.12	0.5	>256	16	32	8	>256	32	8	0.064
H082	KPC-2	ST11	abscess	32	1	0.5	>256	4	8	128	128	32	4	0.5
H104	KPC-2	ST15	urine	64	2	0.5	1	16	64	128	>256	128	128	>32
L118	KPC-2	ST1797	drainage	32	0.5	0.5	>256	8	16	32	>256	128	64	>32
L123	KPC-2	ST11	blood	32	0.5	0.5	>256	128	>256	>256	>256	128	256	>32
L143	KPC-2	ST494	blood	16	0.5	0.5	1	16	16	32	256	256	>256	4
L144	KPC-2	ST11	urine	>256	0.5	0.5	1	64	>256	>256	>256	>256	256	>32
L145	KPC-2	ST11	drainage	>256	0.5	0.5	>256	128	>256	>256	>256	>256	256	>32
L40	KPC-2	ST13	sputum	128	0.25	0.5	64	32	>256	128	>256	128	256	16
L48	KPC-2	ST655	sputum	16	2	0.5	32	16	16	256	>256	>256	64	>32
L52	KPC-2	ST22	urine	8	0.5	0.5	1	8	16	32	>256	16	8	1
L60	KPC-2	ST412	sputum	16	0.5	0.5	2	16	4	8	>256	16	128	0.125
L70	KPC-2	ST48	blood	64	0.25	0.5	>256	4	8	>256	256	32	64	>32
L80	KPC-2	ST11	bile	>256	0.5	0.5	>256	>256	>256	>256	>256	256	>256	>32
L90	KPC-2	ST656	urine	64	1	0.5	128	16	16	32	>256	64	16	16
R37	KPC-2	ST1	drainage	64	0.5	0.5	>256	16	16	32	>256	256	64	>32
Y070	KPC-2	ST23	blood	256	0.25	0.5	>256	>256	>256	128	>256	64	>256	8
C12	NDM-1	ST4927	BALF	64	1	0.5	2	32	>4	>16	>64	>32	>32	2

C280	NDM-1	ST1711	abscess	32	0.12	4	64	>32	>4	>16	>64	>32	>32	>4
C281	NDM-1	ST1711	abscess	64	1	0.25	128	>32	>4	>16	>64	>32	>32	>4
C295	NDM-1	ST11	sputum	64	2	0.5	128	>32	>4	>16	>64	>32	>32	>4
C74	NDM-1	ST20	sputum	64	0.5	0.5	2	32	>4	>16	>64	>32	>32	2
C87	NDM-1	ST20	sputum	64	1	0.5	2	>32	>4	>16	>64	>32	>32	<1
L1	NDM-1	ST1	sputum	16	1	0.5	2	16	32	>256	>256	>256	64	>32
L13	NDM-1	ST11	bile	64	0.25	0.5	4	32	32	>256	>256	>256	128	>32
L14	NDM-1	ST11	sputum	64	0.25	0.5	8	32	32	>256	>256	>256	128	>32
L3	NDM-1	ST25	sputum	64	0.25	0.5	2	8	16	>256	>256	>256	32	2
L4	NDM-1	ST25	sputum	64	0.25	0.5	2	8	16	>256	>256	>256	32	2
H031	IMP-8	ST48	urine	32	2	0.5	1	1	64	>256	>256	>256	64	>32
L94	IMP-8	ST11	drainage	8	1	0.5	>256	16	32	>256	128	>256	256	8
Y047	IMP-8	ST17	urine	2	0.5	1	>256	8	8	>256	64	>256	128	8
Y049	IMP-8	ST17	urine	2	0.25	0.5	>256	8	4	>256	128	>256	256	0.5
H030	IMP-4	ST48	urine	32	2	0.5	2	0.5	8	>256	256	>256	64	8
L107	IMP-4	ST454	sputum	8	0.25	0.5	2	2	4	>256	16	>256	16	1
L112	IMP-4	ST54	sputum	8	0.5	0.5	4	2	8	>256	32	>256	64	1
L116	IMP-4	ST1916	urine	8	0.5	0.5	2	2	4	>256	8	>256	128	1
L33	IMP-4	ST17	blood	4	0.5	0.5	1	2	2	>256	16	256	16	1
L34	IMP-4	ST17	blood	8	1	0.5	128	4	2	>256	16	256	16	1
Y076	IMP-4	ST416	blood	8	0.25	0.5	1	2	2	>256	16	256	32	1
Y077	IMP-4	ST416	sputum	16	0.25	0.5	1	2	4	>256	32	256	32	1
H027	IMP-26	ST1697	abscess	32	4	0.5	2	2	16	>256	32	>256	64	8
P5	VIM-1	ST54	sputum	8	8	0.5	4	8	>4	>16	64	>8	>16	>4
P13	OXA-48	ST353	sputum	4	2	0.25	2	4	>4	8	64	2	1	2
H004	-	ST4928	abscess	8	0.5	16	>256	8	64	>256	>256	>256	8	>32

H029	-	ST4928	urine	4	2	0.5	>256	16	32	>256	64	256	>256	>32
L093	-	ST4929	bile	16	4	0.5	1	4	128	>256	>256	>256	>256	1
Y008	-	ST4930	drainage	4	0.25	0.06	8	16	32	>256	128	256	4	32
Y061	-	ST4930	csf	4	4	0.5	>256	16	64	>256	>256	256	16	>32
Y067	-	ST4926	blood	2	0.5	0.5	>256	4	32	>256	>256	>256	256	>32
Y068	-	ST4930	drainage	8	0.5	2	>256	4	64	32	>256	256	>256	2
Y075	-	ST4931	blood	8	1	0.5	4	32	64	>256	>256	256	2	>32
Y081	-	ST4392	sputum	2	0.25	0.5	32	8	64	>256	>256	>256	256	1
Y083	-	ST4933	blood	16	0.5	0.5	>256	32	128	>256	>256	>256	32	>32
Y105	-	ST4928	blood	16	0.25	0.5	16	32	128	>256	>256	>256	128	>32

2 BALF: bronchoalveolar lavage fluid; MEM: meropenem; TGC: tigecycline; COL: colistin; AK: amikacin; IPM: imipenem; ETP: Ertapenem;

3 FOX: ceftazidime; TAZ: piperacillin-tazobactam; CAZ: ceftazidime; FEP: cefepime; LVX: levofloxacin

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13 Supplement Table 2. Antimicrobial combination effect from chequerboard assay

Strain No.	carbapenemase	MIC(mg/L)				MEM+TGC		TGC+COL		MEM+AK		TGC+AK		MEM+COL		AK+COL	
		MEM	TGC	COL	AK	FICI	activity	FICI	activity	FICI	activity	FICI	activity	FICI	activity	FICI	activity
D07	KPC-2	8	0.25	0.5	32	1.12	I	0.63	P	0.52	P	0.37	S	1	A	0.98	P
D16	KPC-2	64	0.5	1	8	1.01	I	0.51	P	0.56	P	0.51	P	0.25	S	0.31	S
D52	KPC-2	16	0.5	0.5	>128	1.03	I	1.06	I	1	A	0.5	S	0.75	P	1	A
D56	KPC-2	16	2	0.5	2	0.75	P	1.02	I	0.38	S	0.75	P	1	A	0.75	P
L40	KPC-2	>64	0.25	0.5	64	1	A	1.13	I	0.25	S	0.48	S	1.03	I	1	A
L48	KPC-2	16	2	0.5	32	0.51	P	1	A	0.52	P	1	A	2.06	I	1	A
L52	KPC-2	8	0.5	0.5	1	1.03	I	1	A	1	A	0.49	S	1.12	I	2	I
L60	KPC-2	16	0.5	0.5	2	0.75	P	0.2	S	0.75	P	0.73	P	1	A	1	A
L70	KPC-2	64	0.25	0.5	>128	0.51	P	1	A	1	A	0.51	P	1.12	I	0.5	S
L80	KPC-2	>64	0.5	0.5	>128	1	A	1.06	I	0.28	S	0.51	P	1.5	I	1	A
L90	KPC-2	64	1	0.5	128	1	A	1.5	I	1.03	I	0.5	S	1.25	I	0.25	S
H057	KPC-2	64	0.12	0.5	128	2.08	I	1.13	I	1	A	0.51	P	0.62	P	1	A
H082	KPC-2	32	1	0.5	128	0.52	P	0.63	P	0.51	P	0.51	P	0.75	P	1	A
H104	KPC-2	64	2	0.5	1	1	A	0.63	P	1.25	I	0.75	P	0.62	P	1.12	I

L118	KPC-2	32	0.5	0.5	>128	1	A	1.06	I	0.26	S	1	A	1	A	1	A
L123	KPC-2	32	0.5	0.5	>128	1	A	1.06	I	0.26	S	0.5	S	1.5	I	1	A
L143	KPC-2	16	0.5	0.5	1	1	A	0.63	P	0.75	P	0.73	P	1.12	I	1.2	I
L144	KPC-2	>64	0.5	0.5	1	1	A	1.06	I	0.31	S	1	A	1.06	I	1	A
L145	KPC-2	>64	0.5	0.5	>128	1	A	0.56	P	0.26	S	1	A	1.5	I	1	A
R37	KPC-2	64	0.5	0.5	>128	1	A	1.13	I	0.19	S	0.51	P	1	A	1	A
Y070	KPC-2	>64	0.25	0.5	>128	0.51	P	0.63	P	0.28	S	1	A	1.25	I	1	A
L1	NDM-1	16	1	0.5	2	0.62	P	1.06	I	1	A	1	A	1.25	I	1.12	I
L3	NDM-1	64	0.25	0.5	2	1	A	1.13	I	0.75	P	0.62	P	1.25	I	0.62	P
L4	NDM-1	64	0.25	0.5	2	1	A	1.13	I	0.63	P	0.73	P	1.5	I	1.12	I
L13	NDM-1	64	0.25	0.5	4	1	A	1.13	I	0.38	S	0.63	P	1.06	I	1.12	I
L14	NDM-1	64	0.25	0.5	8	2	I	1.13	I	0.38	S	1.12	I	1.06	I	1.06	I
C12	NDM-1	64	1	0.5	2	1.01	I	1.5	I	1.5	I	0.56	P	0.56	P	0.62	P
C74	NDM-1	64	0.5	0.5	2	0.56	P	0.63	P	0.63	P	0.37	S	0.37	S	0.74	P
C87	NDM-1	64	1	0.5	2	0.63	P	1	A	0.75	P	1.25	I	0.75	P	1	A
C280	NDM-1	32	0.12	4	64	1	A	1.13	I	0.75	P	0.75	P	0.75	P	1	A
C281	NDM-1	64	1	0.25	128	0.56	P	1.13	I	0.19	S	2	I	2	I	1	A

C295	NDM-1	64	2	0.5	128	1	A	1	A	0.51	P	1	A	1	A	1	A
H027	IMP-26	32	4	0.5	2	1	A	0.51	P	0.75	P	0.31	S	0.31	S	1.12	I
H030	IMP-4	32	2	0.5	2	1	A	0.52	P	1.06	I	1	A	1	A	0.62	P
H031	IMP-8	32	2	0.5	1	1.13	I	0.51	P	1.13	I	1	A	1	A	1.12	I
L33	IMP-4	4	0.5	0.5	1	1.06	I	1.06	I	0.63	P	0.74	P	0.74	P	1.24	I
L34	IMP-4	8	1	0.5	128	0.63	P	0.63	P	1.06	I	0.74	P	0.74	P	0.14	S
L94	IMP-8	8	1	0.5	>128	1	A	1.03	I	1.02	I	1	A	1	A	1	A
L107	IMP-4	8	0.25	0.5	2	1.12	I	1.13	I	0.75	P	0.49	S	0.49	S	0.74	P
L112	IMP-4	8	0.5	0.5	4	1.1	I	1.13	I	0.53	P	0.75	P	0.75	P	0.75	P
L116	IMP-4	8	0.5	0.5	2	0.5	S	1	A	0.63	P	1.12	I	1.12	I	0.62	P
Y047	IMP-8	2	0.5	1	>128	1.06	I	1.06	I	2	I	1	A	1	A	0.75	P
Y049	IMP-8	2	0.25	0.5	>128	1.12	I	1.13	I	1	A	0.73	P	0.74	P	1	A
Y076	IMP-4	8	0.25	0.5	1	1.12	I	1.13	I	1.13	I	0.98	P	0.62	P	1.5	I
Y077	IMP-4	16	0.25	0.5	1	1	A	1.13	I	0.63	P	0.62	P	0.62	P	1.5	I
H004	-	8	0.5	16	>128	0.49	S	0.56	P	2	I	1	A	1	A	1	A
H029	-	4	2	0.5	>128	1.06	I	0.52	P	0.56	P	0.63	P	0.75	P	1	A
L093	-	16	4	0.5	1	0.51	P	1.02	I	1.25	I	1	A	1	A	1.12	I

Y008	-	4	0.25	0.06	8	1.25	I	1.13	I	0.5	S	0.56	P	1.12	I	3	I
Y061	-	4	4	0.5	>128	1	A	0.63	P	0.31	S	0.63	P	1.12	I	1	A
Y067	-	2	0.5	0.5	>128	0.5	S	0.56	P	1	A	1	A	1.5	I	1	A
Y068	-	8	0.5	2	>128	1	A	0.63	P	1	A	0.73	P	0.75	P	0.52	P
Y075	-	8	1	0.5	4	1	A	0.5	S	0.75	P	1	A	0.31	S	1.13	I
Y081	-	2	0.25	0.5	32	2	I	1.13	I	0.56	P	0.74	P	1.12	I	1	A
Y083	-	16	0.5	0.5	>128	0.5	P	2	I	1	A	1	A	0.74	P	1	A
Y105	-	16	0.25	0.5	16	0.5	P	0.5	S	1	A	0.51	P	1.01	I	1	A
P5	VIM-1	8	8	0.5	4	1.12	I	0.5	S	0.31	S	1.5	I	1.5	I	1.5	I
P13	0XA-48	4	2	0.25	2	1	A	2	I	1	A	1.5	I	1.5	I	2	I

14 MEM: meropenem; TGC: tigecycline; COL: colistin; AK: amikacin; S: synergy; P: Partial synergy; A: additivity; I: indifference; a: antagonism.