

organism	gene	drug_class	Antibiotic	mechanism
Escherichia coli	CTX-M-130	cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-6	carbapenem;cephalosporin	None;penicillin beta-lactam	antibiotic inactivation
Escherichia coli	TEM-126	monobactam;cephalosporin	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	CTX-M-121	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-7	monobactam;cephalosporin	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	SHV-24	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	CMY-42	cephalosporin	cefoxitin;ceftazidime	antibiotic inactivation
Escherichia coli	CMY-55	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-42	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-109	monobactam;cephalosporin	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	VEB-5	monobactam;cephalosporin	None	antibiotic inactivation
Escherichia coli	dfrA13	diaminopyrimidine antibiotic	trimethoprim	antibiotic target replacement
Escherichia coli	CMY-9	cephalosporin	None	antibiotic inactivation
Escherichia coli	aadA12	aminoglycoside antibiotic	spectinomycin;streptomycin	antibiotic inactivation
Escherichia coli	VIM-29	carbapenem;cephalosporin	None;penicillin beta-lactam	antibiotic inactivation
Escherichia coli	tet(E)	tetracycline antibiotic	tetracycline	antibiotic efflux
Escherichia coli	fosA5	fluoroquinolone antibiotic;aminoglycoside antibiotic	ciprofloxacin;gentamicin;phosphonic acid antibiotic	antibiotic inactivation
Escherichia coli	TEM-78	monobactam;cephalosporin	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	OXA-232	carbapenem;penicillin beta-lactam	None;taxactin	antibiotic inactivation
Escherichia coli	TEM-121	monobactam;cephalosporin	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	CTX-M-58	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-56	cephalosporin	None	antibiotic inactivation
Escherichia coli	APH(4)-Ia	aminoglycoside antibiotic	hygromycin B	antibiotic inactivation
Escherichia coli	TEM-206	monobactam;cephalosporin	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	npmA	aminoglycoside antibiotic	neomycin;amikacin;ribostamycin	antibiotic target alteration
Escherichia coli	CTX-M-88	cephalosporin	None	antibiotic inactivation

Escherichia coli	CTX-M-126	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-158	monobactam;cephalosporin	cefepime;cefazidime;betapactam	antibiotic inactivation
Escherichia coli	CMY-21	cephalosporin	None	antibiotic inactivation
Escherichia coli	dfrA24	diaminopyrimidine antibiotic	trimethoprim	antibiotic target replacement
Escherichia coli	TEM-91	monobactam;cephalosporin	cefepime;cefazidime;betapactam	antibiotic inactivation
Escherichia coli	CMY-110	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-60	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-95	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-207	monobactam;cephalosporin	cefepime;cefazidime;betapactam	antibiotic inactivation
Escherichia coli	CTX-M-101	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-176	monobactam;cephalosporin	cefepime;cefazidime;betapactam	antibiotic inactivation
Escherichia coli	CTX-M-36	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-148	monobactam;cephalosporin	cefepime;cefazidime;betapactam	antibiotic inactivation
Escherichia coli	GES-17	carbapenem;cephalosporin	None	penicillin beta-lactam
Escherichia coli	TEM-166	monobactam;cephalosporin	cefepime;cefazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-112	monobactam;cephalosporin	cefepime;cefazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-122	monobactam;cephalosporin	cefepime;cefazidime;betapactam	antibiotic inactivation
Escherichia coli	CTX-M-25	cephalosporin	None	antibiotic inactivation
Escherichia coli	SHV-15	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	SHV-8	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	TEM-214	monobactam;cephalosporin	cefepime;cefazidime;betapactam	antibiotic inactivation
Escherichia coli	sul3	sulfonamide antibiotic	sulfadiazine;sulfadimidine;sulfadoxine;sulfapyridine	antibiotic target replacement
Escherichia coli	ACC-4	monobactam;cephalosporin	cefepime;cefazidime;betapactam;aztreonam;colistin	antibiotic inactivation
Escherichia coli	TEM-33	monobactam;cephalosporin	cefepime;cefazidime;betapactam	antibiotic inactivation
Escherichia coli	CTX-M-1	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-94	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-29	cephalosporin	None	antibiotic inactivation

Escherichia coli	NDM-13	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-151	monobactam;cephalosporin	cefepime;cefazidime;betipacidam	antibiotic inactivation
Escherichia coli	TEM-128	monobactam;cephalosporin	cefepime;cefazidime;betipacidam	antibiotic inactivation
Escherichia coli	GES-7	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-84	monobactam;cephalosporin	cefepime;cefazidime;betipacidam	antibiotic inactivation
Escherichia coli	CMY-28	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-69	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-9	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-82	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-13	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-47	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-95	monobactam;cephalosporin	cefepime;cefazidime;betipacidam	antibiotic inactivation
Escherichia coli	emrY	tetracycline antibiotic	tetracycline	antibiotic efflux
Escherichia coli	TEM-106	monobactam;cephalosporin	cefepime;cefazidime;betipacidam	antibiotic inactivation
Escherichia coli	TLA-1	monobactam;cephalosporin	None	antibiotic inactivation
Escherichia coli	QnrB3	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin;and floxacin	antibiotic target protection
Escherichia coli	CTX-M-117	cephalosporin	None	antibiotic inactivation
Escherichia coli	QnrB19	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin;and floxacin	antibiotic target protection
Escherichia coli	NDM-7	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-145	monobactam;cephalosporin	cefepime;cefazidime;betipacidam	antibiotic inactivation
Escherichia coli	CTX-M-122	cephalosporin	None	antibiotic inactivation
Escherichia coli	dfrA16	diaminopyrimidine antibiotic	trimethoprim	antibiotic target replacement
Escherichia coli	TEM-201	monobactam;cephalosporin	cefepime;cefazidime;betipacidam	antibiotic inactivation
Escherichia coli	emrK	tetracycline antibiotic	tetracycline	antibiotic efflux
Escherichia coli	NDM-8	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	CFE-1	cephalosporin	None	antibiotic inactivation
Escherichia coli	aadA	aminoglycoside antibiotic	spectinomycin;streptomycin	antibiotic inactivation

Escherichia coli	SAT-3	nucleoside antibiotic	streptothricin	antibiotic inactivation
Escherichia coli	dfrA26	diaminopyrimidine antibiotic	trimethoprim	antibiotic target replacement
Escherichia coli	CMY-43	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-34	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-65	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-137	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-27	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-54	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-123	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-40	cephalosporin	None	antibiotic inactivation
Escherichia coli	SHV-129	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	CTX-M-98	cephalosporin	None	antibiotic inactivation
Escherichia coli	dfrB1	diaminopyrimidine antibiotic	trimethoprim	antibiotic target replacement
Escherichia coli	CTX-M-100	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-33	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-30	monobactam;cephalosporin;penicillin;cephalosporin	amoxicillin;ceftazidime;ceftriaxone	antibiotic inactivation
Escherichia coli	QnrB21	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin	antibiotic target protection
Escherichia coli	arr-3	rifamycin antibiotic	rifampin;rifaximin;rifabutin	antibiotic inactivation
Escherichia coli	CMY-40	cephalosporin	None	antibiotic inactivation
Escherichia coli	KPC-9	monobactam;carbapenem;cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	TEM-6	monobactam;cephalosporin;penicillin beta-lactam	ceftazidime;ceftriaxone	antibiotic inactivation
Escherichia coli	CTX-M-55	cephalosporin	ceftazidime;ceftriaxone	antibiotic inactivation
Escherichia coli	FOX-2	cephalosporin	None	antibiotic inactivation
Escherichia coli	SHV-102	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	SHV-57	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	CMY-24	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-32	cephalosporin	None	antibiotic inactivation

Escherichia coli	TEM-55	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	CTX-M-87	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-171	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	CTX-M-158	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-83	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	FosA3	phosphonic acid antibiotic	fosfomycin	antibiotic inactivation
Escherichia coli	CTX-M-102	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-44	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-20	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-14	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-163	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	CMY-58	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-142	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	CMY-61	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-142	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-185	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	TEM-63	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	APH(6)-Ic	aminoglycoside antibiotic	streptomycin	antibiotic inactivation
Escherichia coli	rmtB	aminoglycoside antibiotic	dibekacin;amikacin;gentamicin	antibiotic inactivation
Escherichia coli	CTX-M-93	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-139	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-50	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-49	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	TEM-152	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	TEM-125	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	CMY-69	cephalosporin	None	antibiotic inactivation
Escherichia coli	VEB-8	monobactam;cephalosporin	None	antibiotic inactivation

Escherichia coli	TEM-96	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	TEM-153	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	GES-20	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	EreA	macrolide antibiotic	erythromycin;roxithromycin	antibiotic inactivation
Escherichia coli	TEM-29	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	TEM-28	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	CMY-102	cephalosporin	None	antibiotic inactivation
Escherichia coli	SHV-2	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	VIM-19	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	DHA-22	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-79	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	CTX-M-21	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-17	cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-5	carbapenem;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	FOX-8	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-186	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	TEM-90	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	OXA-7	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	CTX-M-124	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-39	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-146	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	CMY-94	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-46	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-54	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	CTX-M-105	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-28	cephalosporin	None	antibiotic inactivation
Escherichia coli	QnrB45	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin	antibiotic inactivation

Escherichia coli	TEM-219	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	CMY-30	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-33	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-53	cephalosporin	None	antibiotic inactivation
Escherichia coli	mphA	macrolide antibiotic	erythromycin;roxithromycin	antibiotic inactivation
Escherichia coli	MIR-4	monobactam;cephalosporin	None	antibiotic inactivation
Escherichia coli	QnrS3	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin	antibiotic inactivation
Escherichia coli	CTX-M-67	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-45	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	SHV-34	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	mef(B)	macrolide antibiotic	erythromycin;azithromycin	antibiotic efflux
Escherichia coli	SAT-2	nucleoside antibiotic	streptothricin	antibiotic inactivation
Escherichia coli	tet(32)	tetracycline antibiotic	tetracycline;doxycycline	antibiotic inactivation
Escherichia coli	SHV-126	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	TEM-93	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	GES-5	carbapenem;cephalosporin	penicillin beta-lactam	antibiotic inactivation
Escherichia coli	CTX-M-132	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-101	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-11	cephalosporin	None	antibiotic inactivation
Escherichia coli	AAC(3)-IIc	aminoglycoside antibiotic	dibekacin;sisomicin;netilmicin	antibiotic inactivation
Escherichia coli	CTX-M-92	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-62	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-6	cephalosporin	None	antibiotic inactivation
Escherichia coli	DHA-6	cephalosporin	None	antibiotic inactivation
Escherichia coli	aadA5	aminoglycoside antibiotic	spectinomycin;streptomycin	antibiotic inactivation
Escherichia coli	CMY-18	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-40	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation

Escherichia coli	CTX-M-103	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-216	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	GES-19	carbapenem;cephalosporin	None	penicillin beta-lactam
Escherichia coli	SHV-135	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	CTX-M-44	cephalosporin	None	antibiotic inactivation
Escherichia coli	InuF	lincosamide antibiotic	lincomycin;clindamycin	antibiotic inactivation
Escherichia coli	CMY-108	cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-3	carbapenem;cephalosporin	None	penicillin beta-lactam
Escherichia coli	TEM-168	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	TEM-81	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	CMY-22	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-32	cephalosporin	None	antibiotic inactivation
Escherichia coli	OXA-10	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	CMY-64	cephalosporin	None	antibiotic inactivation
Escherichia coli	dfrA14	diaminopyrimidine antibiotic	trimethoprim	antibiotic target replacement
Escherichia coli	CTX-M-16	cephalosporin	None	antibiotic inactivation
Escherichia coli	APH(2'')-IIa	aminoglycoside antibiotic	plazomicin	antibiotic inactivation
Escherichia coli	SHV-84	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	CTX-M-2	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-117	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	CTX-M-79	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-143	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	CMY-57	cephalosporin	None	antibiotic inactivation
Escherichia coli	QnrB4	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin;and floxacin	antibiotic target protection
Escherichia coli	TEM-184	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	TEM-101	monobactam;cephalosporin	ceftazidime;betipacidam	antibiotic inactivation
Escherichia coli	FOX-4	cephalosporin	None	antibiotic inactivation



Escherichia coli	mphB	macrolide antibiotic	erythromycin;roxithromycin;clarithromycin;azithromycin	antibiotic inactivation
Escherichia coli	CTX-M-45	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-23	cephalosporin	None	antibiotic inactivation
Escherichia coli	aadA16	aminoglycoside antibiotic	spectinomycin;streptomycin	antibiotic inactivation
Escherichia coli	CTX-M-144	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-127	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	CTX-M-106	cephalosporin	None	antibiotic inactivation
Escherichia coli	QnrS7	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin	antibiotic inactivation
Escherichia coli	QnrB44	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin	antibiotic inactivation
Escherichia coli	SHV-120	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	CTX-M-134	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-27	carbapenem;cephalosporin	imipenem;meropenem	antibiotic inactivation
Escherichia coli	TEM-94	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	ACT-5	carbapenem;cephalosporin	imipenem;meropenem	antibiotic inactivation
Escherichia coli	CMY-59	cephalosporin	None	antibiotic inactivation
Escherichia coli	QnrB20	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin	antibiotic inactivation
Escherichia coli	TEM-82	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	TEM-70	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	NDM-4	carbapenem;cephalosporin	imipenem;meropenem	antibiotic inactivation
Escherichia coli	NDM-12	carbapenem;cephalosporin	imipenem;meropenem	antibiotic inactivation
Escherichia coli	CTX-M-51	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-208	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	EreB	macrolide antibiotic	erythromycin;roxithromycin;clarithromycin;azithromycin	antibiotic inactivation
Escherichia coli	CTX-M-29	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-150	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	CTX-M-148	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-167	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation

Escherichia coli	TEM-76	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	TEM-154	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	TEM-105	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	TEM-190	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	TEM-111	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	FosA4	phosphonic acid antibiotic	fosfomycin	antibiotic inactivation
Escherichia coli	SHV-7	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	CMY-7	cephalosporin	None	antibiotic inactivation
Escherichia coli	QnrB74	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin;and fluoroquinolones	antibiotic target protection
Escherichia coli	TEM-215	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	TEM-189	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	CTX-M-129	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-104	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-57	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	QnrB43	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin;and fluoroquinolones	antibiotic target protection
Escherichia coli	CTX-M-15	cephalosporin;penicillin beta-lactam	cefazolin;ceftazidime;ceftriaxone	antibiotic inactivation
Escherichia coli	dfrA15	diaminopyrimidine antibiotic	trimethoprim	antibiotic target replacement
Escherichia coli	FosC2	phosphonic acid antibiotic	fosfomycin	antibiotic inactivation
Escherichia coli	APH(3')-IIa	aminoglycoside antibiotic	neomycin;ribostamycin;and aminoglycosides	antibiotic inactivation
Escherichia coli	Escherichia coli EF-Tu mutation	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin;and fluoroquinolones	antibiotic target alteration
Escherichia coli	QnrS11	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin;and fluoroquinolones	antibiotic target protection
Escherichia coli	OXA-439	carbapenem;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	ACT-8	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	AAC(3)-Ile	aminoglycoside antibiotic	dibekacin;sisomicin;netilmicin	antibiotic inactivation
Escherichia coli	AAC(3)-IId	aminoglycoside antibiotic	dibekacin;sisomicin;netilmicin	antibiotic inactivation
Escherichia coli	AAC(6')-Im	aminoglycoside antibiotic	dibekacin;amikacin;sisomicin	antibiotic inactivation
Escherichia coli	qnrE2	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin;and fluoroquinolones	antibiotic target protection

Escherichia coli	QnrS12	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin;amoxicillin;gentamicin	antibiotic target alteration
Escherichia coli	oqxA	fluoroquinolone antibiotic	tigecycline;ceftioxydine;antibiotic efflux pump	antibiotic target alteration
Escherichia coli	oqxB	fluoroquinolone antibiotic	tigecycline;ceftioxydine;antibiotic efflux pump	antibiotic target alteration
Escherichia coli	QnrS15	fluoroquinolone antibiotic	ciprofloxacin;levofloxacin;amoxicillin;gentamicin	antibiotic target alteration
Escherichia coli	NDM-20	carbapenem;cephalosporin	N-phenicillin beta-lactam	antibiotic inactivation
Escherichia coli	MCR-3.12	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.5	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.11	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	aadA8b	aminoglycoside antibiotic	spectinomycin;streptomycin	antibiotic inactivation
Escherichia coli	rmtE	aminoglycoside antibiotic	amikacin;gentamicin A;gentamicin	antibiotic target alteration
Escherichia coli	MCR-1.7	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.12	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-4.2	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	NDM-27	carbapenem;cephalosporin	N-phenicillin beta-lactam	antibiotic inactivation
Escherichia coli	rmtE2	aminoglycoside antibiotic	amikacin;kanamycin A;gentamicin A;gentamicin	antibiotic target alteration
Escherichia coli	MCR-1.8	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.13	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	tet(X4)	glycylcycline;tetracycline	tigecycline;tetracycline	antibiotic inactivation
Escherichia coli	MCR-4.4	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-4.5	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	floR	phenicol antibiotic	chloramphenicol;florfenicol	antibiotic efflux
Escherichia coli	MCR-5.2	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	Escherichia coli emrE	macrolide antibiotic	erythromycin	antibiotic efflux
Escherichia coli	NDM-17	carbapenem;cephalosporin	N-phenicillin beta-lactam	antibiotic inactivation
Escherichia coli	QepA2	fluoroquinolone antibiotic	ciprofloxacin;moxifloxacin;amoxicillin	antibiotic efflux
Escherichia coli	FosA6	phosphonic acid antibiotic	fosfomycin	antibiotic inactivation
Escherichia coli	porin OmpC	monobactam;carbapenem;cephalosporin;penicillin	betulactam	permeability to antibiotics

Escherichia coli	Escherichia coli mdfA	tetracycline antibiotic;phenol;acetic acid;disinfectant;antibiotic efflux pump	tetracycline;phenol;acetic acid;disinfectant;antibiotic efflux pump	antibiotic target replacement
Escherichia coli	QepA4	fluoroquinolone antibiotic	ciprofloxacin;nalidixic acid;enrofloxacin	antibiotic efflux
Escherichia coli	BIL-1	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-136	cephalosporin	cefuroxime;cefotaxime;ceftriaxone	antibiotic inactivation
Escherichia coli	TEM-231	monobactam;cephalosporin	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	SHV-4	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	NDM-15	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-132	cephalosporin	None	antibiotic inactivation
Escherichia coli	IMP-52	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-19	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-133	cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-18	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	dfrB4	diaminopyrimidine antibiotic	trimethoprim	antibiotic target replacement
Escherichia coli	MCR-3.11	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-3.5	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.9	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-3.2	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.3	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.4	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	NDM-21	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	dfrA9	diaminopyrimidine antibiotic	trimethoprim	antibiotic target replacement
Escherichia coli	TEM-233	monobactam;cephalosporin	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	NDM-11	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	dfrA29	diaminopyrimidine antibiotic	trimethoprim	antibiotic target replacement
Escherichia coli	TEM-227	monobactam;cephalosporin	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	OXA-438	carbapenem;penicillin beta-lactam	oxacillin	antibiotic inactivation
Escherichia coli	FosL1	phosphonic acid antibiotic	fosfomycin	antibiotic inactivation

Escherichia coli	CTX-M-161	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-163	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-166	cephalosporin	None	antibiotic inactivation
Escherichia coli	BLMT	glycopeptide antibiotic	bleomycin	antibiotic inactivation
Escherichia coli	mlaD	oxazolidinone antibiotic;glycopeptide antibiotic	vancomycin	antibiotic efflux
Escherichia coli	mlaF	oxazolidinone antibiotic;glycopeptide antibiotic	vancomycin	antibiotic efflux
Escherichia coli	AAC(6')-Ib-cr6	fluoroquinolone antibiotic;amikacin;glycoside;oxazolidinone antibiotic	kanamycin;Artemisinine	antibiotic inactivation
Escherichia coli	FosA7.5	phosphonic acid antibiotic	fosfomycin	antibiotic inactivation
Escherichia coli	dfrA35	diaminopyrimidine antibiotic	trimethoprim	antibiotic target replacement
Escherichia coli	CMY-134	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-143	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-107	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-158	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-173	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-147	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-146	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-156	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-160	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-162	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-140	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-164	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-161	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-165	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-166	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-139	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-148	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-163	cephalosporin	None	antibiotic inactivation

Escherichia coli	CMY-154	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-142	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-141	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-145	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-171	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-96	cephalosporin	None	antibiotic inactivation
Escherichia coli	SHV-197	cephalosporin;penicillin b-lactam	None	antibiotic inactivation
Escherichia coli	CMY-121	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-97	cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-230	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	CMY-153	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-130	cephalosporin	None	antibiotic inactivation
Escherichia coli	SHV-199	cephalosporin;penicillin b-lactam	None	antibiotic inactivation
Escherichia coli	TEM-5	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-9	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-35	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-36	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-37	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-39	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-210	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-225	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-226	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-236	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-237	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-238	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	TEM-243	monobactam;cephalosporin;ceftazidime;betapactam	ceftazidime;betapactam	antibiotic inactivation
Escherichia coli	DfrA36	diaminopyrimidine antibiotic	trimethoprim	antibiotic target replacement

Escherichia coli	dfr22	diaminopyrimidine antibiotic	trimethoprim	antibiotic target replacement
Escherichia coli	KPC-18	monobactam;carbapenem	cephalosporin;penicillin	antibiotic inactivation
Escherichia coli	KPC-28	monobactam;carbapenem	cephalosporin;penicillin	antibiotic inactivation
Escherichia coli	KPC-49	monobactam;carbapenem	cephalosporin;penicillin	antibiotic inactivation
Escherichia coli	CMY-131	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-159	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-127	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-138	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-143	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-146	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-150	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-153	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-168	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-169	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-170	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-172	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-174	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-175	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-178	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-179	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-180	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-181	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-182	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-184	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-186	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-188	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-189	cephalosporin	None	antibiotic inactivation

Escherichia coli	CTX-M-190	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-191	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-192	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-193	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-194	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-195	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-196	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-198	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-199	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-202	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-203	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-207	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-211	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-214	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-215	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-216	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-218	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-222	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-223	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-225	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-226	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-227	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-230	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-232	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-233	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-234	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-235	cephalosporin	None	antibiotic inactivation



Escherichia coli	CTX-M-238	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-239	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-240	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-241	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-242	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-244	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-73	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-97	cephalosporin	None	antibiotic inactivation
Escherichia coli	EC-13	cephalosporin	None	antibiotic inactivation
Escherichia coli	EC-14	cephalosporin	None	antibiotic inactivation
Escherichia coli	EC-15	cephalosporin	None	antibiotic inactivation
Escherichia coli	EC-16	cephalosporin	None	antibiotic inactivation
Escherichia coli	EC-18	cephalosporin	None	antibiotic inactivation
Escherichia coli	EC-19	cephalosporin	None	antibiotic inactivation
Escherichia coli	EC-8	cephalosporin	None	antibiotic inactivation
Escherichia coli	FRI-10	penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	IMP-59	carbapenem;cephalosporin	None;penicillin beta-lactam	antibiotic inactivation
Escherichia coli	IMP-66	carbapenem;cephalosporin	None;penicillin beta-lactam	antibiotic inactivation
Escherichia coli	KLUC-3	cephalosporin	None	antibiotic inactivation
Escherichia coli	KPC-21	monobactam;carbapenem;cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	KPC-60	monobactam;carbapenem;cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	NDM-26	carbapenem;cephalosporin	None;penicillin beta-lactam	antibiotic inactivation
Escherichia coli	OXA-566	carbapenem;penicillin beta-lactam	cefazolin	antibiotic inactivation
Escherichia coli	OXA-655	cephalosporin;penicillin beta-lactam	cefazolin	antibiotic inactivation
Escherichia coli	OXA-929	carbapenem;penicillin beta-lactam	cefazolin	antibiotic inactivation
Escherichia coli	TEM-98	monobactam;cephalosporin;penicillin beta-lactam	cefepime;cefazolin;ceftriaxone	antibiotic inactivation
Escherichia coli	TEM-99	monobactam;cephalosporin;penicillin beta-lactam	cefepime;cefazolin;ceftriaxone	antibiotic inactivation

Escherichia coli	VEB-15	monobactam;cephalosporin	None	antibiotic inactivation
Escherichia coli	VEB-17	monobactam;cephalosporin	None	antibiotic inactivation
Escherichia coli	VEB-19	monobactam;cephalosporin	None	antibiotic inactivation
Escherichia coli	VIM-57	carbapenem;cephalosporin	penicillin beta-lactam	antibiotic inactivation
Escherichia coli	NDM-33	fluoroquinolone antibiotic;carbapenem;cephalosporin;polymyxin	ampicillin beta-lactam	antibiotic inactivation
Escherichia coli	ToIC	macrolide antibiotic;fluoroquinolone antibiotic;clindamycin;glycopeptide antibiotic	erythromycin;clindamycin;glycopeptide antibiotic	antibiotic inactivation
Escherichia coli	MCR-1.1	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-2.1	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-3.1	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.33	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.26	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	NDM-16b	carbapenem;cephalosporin	penicillin beta-lactam	antibiotic inactivation
Escherichia coli	NDM-35	carbapenem;cephalosporin	penicillin beta-lactam	antibiotic inactivation
Escherichia coli	NDM-36	carbapenem;cephalosporin	penicillin beta-lactam	antibiotic inactivation
Escherichia coli	NDM-37	carbapenem;cephalosporin	penicillin beta-lactam	antibiotic inactivation
Escherichia coli	MCR-1.34	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.27	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.18	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.20	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.28	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.21	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.16	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.22	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.24	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.17	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.31	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.25	peptide antibiotic	colistin A;colistin B	antibiotic target alteration

Escherichia coli	MCR-3.24	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-3.20	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-3.39	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-3.29	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-3.19	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-5.3	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-2.3	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-2.8	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	MCR-1.32	peptide antibiotic	colistin A;colistin B	antibiotic target alteration
Escherichia coli	FosA8	phosphonic acid antibiotic	fosfomycin	antibiotic inactivation
Escherichia coli	AAC(3)-IVa	aminoglycoside antibiotic	dibekacin;sisomicin;apramycin	antibiotic inactivation
Escherichia coli	leuO	nucleoside antibiotic;disinfecting agents	gentamicin;kanamycin	antibiotic efflux
Escherichia coli	AAC(6')-I33	aminoglycoside antibiotic	amikacin;tobramycin	antibiotic inactivation
Escherichia coli	NDM-45	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-46	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	TEM-244	monobactam;cephalosporin	ceftazidime;cefepime	antibiotic inactivation
Escherichia coli	catA1	phenicol antibiotic	azidamfenicol;chloramphenicol	antibiotic inactivation
Escherichia coli	CMY-185	cephalosporin	None	antibiotic inactivation
Escherichia coli	aac(6')-Ib-cr10	fluoroquinolone antibiotic	amikacin;profloxacin;kanamycin	antibiotic inactivation
Escherichia coli	CMY-178	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-184	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-191	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-192	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-195	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-196	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-197	cephalosporin	None	antibiotic inactivation
Escherichia coli	CMY-198	cephalosporin	None	antibiotic inactivation

Escherichia coli	CMY-199	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-243	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-252	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-254	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-255	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-262	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-263	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-264	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-265	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-267	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-268	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-269	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-274	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-275	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-276	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-277	cephalosporin	None	antibiotic inactivation
Escherichia coli	CTX-M-278	cephalosporin	None	antibiotic inactivation
Escherichia coli	DHA-33	cephalosporin	None	antibiotic inactivation
Escherichia coli	DHA-34	cephalosporin	None	antibiotic inactivation
Escherichia coli	KPC-217	monobactam;carbapenem;cephalosporin;penicillin	None	antibiotic inactivation
Escherichia coli	KPC-225	monobactam;carbapenem;cephalosporin;penicillin	None	antibiotic inactivation
Escherichia coli	MUN-1	cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-48	carbapenem;cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	NDM-49	carbapenem;cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	NDM-51	carbapenem;cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	NDM-53	carbapenem;cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	NDM-55	carbapenem;cephalosporin;penicillin beta-lactam	None	antibiotic inactivation

Escherichia coli	NDM-56	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-57	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-60	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-66	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-67	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-68	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-70	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	NDM-74	carbapenem;cephalosporin	None	antibiotic inactivation
Escherichia coli	OXA-1119	carbapenem;penicillin beta-lactam	tazacillin	antibiotic inactivation
Escherichia coli	OXA-1181	carbapenem;penicillin beta-lactam	tazacillin	antibiotic inactivation
Escherichia coli	OXA-1205	carbapenem;penicillin beta-lactam	tazacillin	antibiotic inactivation
Escherichia coli	OXA-1207	carbapenem;penicillin beta-lactam	tazacillin	antibiotic inactivation
Escherichia coli	OXA-1213	carbapenem;penicillin beta-lactam	tazacillin	antibiotic inactivation
Escherichia coli	OXA-1226	carbapenem;penicillin beta-lactam	tazacillin	antibiotic inactivation
Escherichia coli	OXA-1304	carbapenem;penicillin beta-lactam	tazacillin	antibiotic inactivation
Escherichia coli	SHV-230	cephalosporin;penicillin beta-lactam	None	antibiotic inactivation
Escherichia coli	TEM-248	monobactam;cephalosporin	ampicillin	antibiotic inactivation
Escherichia coli	TEM-249	monobactam;cephalosporin	ampicillin	antibiotic inactivation
Escherichia coli	TEM-251	monobactam;cephalosporin	ampicillin	antibiotic inactivation
Escherichia coli	TEM-252	monobactam;cephalosporin	ampicillin	antibiotic inactivation
Escherichia coli	TEM-253	monobactam;cephalosporin	ampicillin	antibiotic inactivation
Escherichia coli	TEM-254	monobactam;cephalosporin	ampicillin	antibiotic inactivation
Escherichia coli	VEB-36	monobactam;cephalosporin	None	antibiotic inactivation