

Supplementary file

Table S1: Functional annotation of comprehensive antibiotic resistance genes for *Enterococcus*_phage

Contig	Start	Stop	(+/-)	Pass Bit score	Best Hit Bit score	Best Hit ARO	Best Identitie s	ARO id	Drug Class	Resistance Mechanism	AMR Gene Family
MH618488.1_1	3	101	-	275	23.8682	AAC(6')-Ic	40	3002549	Aminoglycoside	Inactivation	AAC(6')
MH618488.1_2	148	1110	-	500	25.0238	OXA-636	27.78	3005857	Carbapenem; cephalosporin	Inactivation	OXA beta-lactamase
MH618488.1_3	1112	1378	-	960	22.3274	efrA	100	3003948	Fluoroquinolone; rifamycin	Antibiotic efflux	ATP-binding cassette (ABC) antibiotic efflux
MH618488.1_4	1371	1619	-	600	22.7126	emtA	38.89	3004669	Lincosamide; orthosomycin	Target alteration	Non-erm 23S ribosomal RNA methyltransferase
MH618488.1_5	1633	1842	-	700	23.8682	OCH-3	42.86	3002516	Monobactam; cephamycin	Inactivation	OCH beta-lactamase
MH618488.1_7	2051	2275	-	960	24.2534	efrA	30.19	3003948	Macrolide fluoroquinolone	Antibiotic efflux	ATP-binding cassette (ABC) efflux pump
MH618488.1_9	2532	2726	-	900	24.2534	otr(B)	31.43	3002892	Tetracycline	Antibiotic efflux	Major facilitator superfamily (MFS)
MH618488.1_10	2805	3236	-	500	25.7942	NDM-10	27.59	3002360	Carbapenem; cephalosporin;	Inactivation	NDM beta-lactamase
MH618488.1_11	3249	3449	-	275	22.3274	AAC (6')-Iy	33.33	3002569	Aminoglycoside	Inactivation	AAC(6')
MH618488.1_12	3460	4044	-	500	24.2534	ErmH	47.06	3002823	Lincosamide streptogramin	Target alteration	Erm 23S ribosomal RNA methyltransferase
MH618488.1_13	4045	4503	-	500	24.2534	OXA-25	42.86	3001420	Carbapenem; cephalosporin	Inactivation	OXA beta-lactamase
MH618488.1_14	4562	5257	-	1800	25.7942	mdtB	33.33	3000793	Aminocoumarin	Antibiotic efflux	Resistance-nodulation-cell division (RND)
MH618488.1_15	5250	5642	-	600	26.9498	CfxA6	33.33	3003097	Cepharmycin	Inactivation	CfxA beta-lactamase
MH618488.1_16	5644	6078	-	700	25.409	CMA-1	18.18	3006922	Cephalosporin	Inactivation	CMA beta-lactamase
MH618488.1_19	8767	9144	-	225	25.7942	FosB	29.41	3000172	Phosphonic acid antibiotic	Inactivation	Fosfomycin thiol transferase
MH618488.1_20	9145	9354	-	600	21.9422	PRC-1	25	3007085	Cephalosporin	Inactivation	PRC beta-lactamase

MH618488.1_21	9357	9566	-	500	24.6386	cfrC	34.62	3004146	Streptogramin oxazolidinone	Target alteration	Cfr 23S ribosomal RNA methyltransferase
MH618488.1_23	9802	9996	-	1900	22.3274	AcrF	30	3000502	Fluoroquinolone; cephalosporin;	antibiotic efflux	Resistance-nodulation-cell division (RND)
MH618488.1_24	9997	10176	-	700	24.2534	CMA-2	36.11	3006923	Cephalosporin	inactivation	CMA beta-lactamase
MH618488.1_25	10189	10362	-	900	28.8758	emrY	35.29	3000254	Tetracycline antibiotic	Antibiotic efflux	Major facilitator superfamily (MFS) efflux pump
MH618488.1_27	10713	11276	-	300	25.7942	dfrA24	33.33	3002856	Diaminopyrimidine	Target replacement	Trimethoprim resistant dihydrofolate reductase dfr
MH618488.1_28	11368	12000	-	1000	26.1794	HelR	30	3007208	Rifamycin antibiotic	Target protection	Helicase-like RNA polymerase protection protein
MH618488.1_30	12559	12993	-	500	25.7942	TEM-90	30.3	3000957	Monobactam; cephalosporin;	Inactivation	TEM beta-lactamase
MH618488.1_31	13130	13459	-	750	23.483	pmrA	40	3000822	Fluoroquinolone	Antibiotic efflux	Major facilitator superfamily (MFS) antibiotic efflux pump
MH618488.1_33	14480	14920	-	450	27.335	lnuG	35.59	3004085	Lincosamide	Inactivation	Lincosamide nucleotidyltransferase (LNU)
MH618488.1_34	14993	15253	-	150	22.7126	nimH	26.92	3007110	Nitroimidazole	Inactivation	Nitroimidazole reductase
MH618488.1_35	15277	15489	-	810	23.0978	cdeA	40.74	3003835	Fluoroquinolone	Antibiotic efflux	Multidrug and toxic compound extrusion (MATE) transporter
MH618488.1_36	15455	16207	-	550	25.409	APH(2'')-IVa	28.21	3002637	Aminoglycoside antibiotic	Inactivation	APH (2'')
MH618488.1_37	16220	17584	-	2130	26.1794	mtrD	27.66	3000811	Macrolide antibiotic; penam	Antibiotic efflux	Resistance-nodulation-cell division (RND) antibiotic efflux pump

MH618488.1_38	17596	1837 2	-	2200	28.105 4	Iles resistance to mupirocin	30.23	3003730	Mupirocin- like antibiotic	Target alteration	Antibiotic- resistant isoleucyl-tRNA synthetase (ileS)
MH618488.1_39	18421	1877 4	-	1900	24.253 4	MexK	40.91	3003693	Macrolide; tetracycline	Antibiotic efflux	Resistance- nodulation-cell division (RND)
MH618488.1_40	18849	1979 3	-	50	25.023 8	vanY gene in vanA cluster	37.78	3002955	Glycopeptide	Target alteration	VanY; glycopeptide resistance gene
MH618488.1_41	19823	2003 5	-	700	25.023 8	vanS gene in vanM cluster	34.21	3002939	Glycopeptide	Target alteration	VanS; glycopeptide resistance gene
MH618488.1_42	20047	2023 5	-	300	24.253 4	tet[35]	43.75	3000556	Tetracycline	Target protection	Tetracycline- resistant ribosomal protection protein
MH618488.1_43	20249	2040 1	-	880	21.171 8	arlS	42.86	3000839	Fluoroquinolo ne	Antibiotic efflux	Major facilitator superfamily (MFS) antibiotic efflux pump
MH618488.1_44	20401	2073 3	-	400	24.638 6	C.butyricu m catB	25.86	3002674	Phenicol antibiotic	Inactivation	Chloramphenic ol acetyltransferas e (CAT)
MH618488.1_45	20733	2098 4	-	300	24.253 4	AAC[36]- Ia	52.63	3002528	Aminoglycosi de	Inactivation	AAC [36]
MH618488.1_46	20984	2122 9	-	500	24.638 6	PER-11	25	3006132	Cephalosporin	Inactivation	PER beta- lactamase
MH618488.1_47	22038	2231 3	-	1200	24.253 4	TaeA	39.29	3003986	Pleuromutilin antibiotic	Antibiotic efflux	ATP-binding cassette (ABC) antibiotic efflux pump
MH618488.1_48	22348	2254 8	-	750	24.638 6	bmr	25.45	3003007	Fluoroquinolo ne	Antibiotic efflux	Major facilitator superfamily (MFS) antibiotic efflux pump
MH618488.1_49	22548	2293 4	-	500	24.638 6	PC1 beta- lactamase	35.48	3000621	Penam	Inactivation	BlaZ beta- lactamase
MH618488.1_50	22937	2337 1	-	980	24.638 6	opcM	30.23	3003037	Fluoroquinolo ne aminoglycosid e	Antibiotic efflux	Resistance- nodulation-cell division (RND)

MH618488.1_51	23424	24248	-	2110	25.0238	MexF	40	3000804	Fluoroquinolone diaminopyrimidine	Antibiotic efflux	Resistance-nodulation-cell division (RND)
MH618488.1_53	24961	25389	+	500	26.1794	CARB-6	50	3002245	Penam	Inactivation	CARB beta-lactamase
MH618488.1_54	25673	26386	-	600	30.0314	rgt1438	29.31	3002883	Rifamycin antibiotic	Inactivation	Rifampin glycosyltransferase
MH618488.1_55	26433	26786	-	500	23.8682	OXA-85	28.95	3001780	Carbapenem; cephalosporin;	Inactivation	OXA beta-lactamase
MH618488.1_56	26734	29760	-	400	33.4982	kamB	26.42	3004102	Aminoglycoside	Target alteration	16S rRNA methyltransferase (A1408)
MH618488.1_57	29773	33765	-	1320	27.7202	lmrD	41.67	3002882	Lincosamide	Antibiotic efflux	ATP-binding cassette (ABC) antibiotic efflux pump
MH618488.1_58	33779	36664	-	500	26.9498	OXA-896	31.15	3006087	carbapenem	Inactivation	OXA beta-lactamase
MH618488.1_59	36677	36901	-	1800	25.7942	MexD	27.66	3000801	Fluoroquinolone; diaminopyrimidine	Antibiotic efflux	Resistance-nodulation-cell division (RND)
MH618488.1_61	37496	38185	-	1000	25.409	efpA	44.44	3003955	rifamycin	Antibiotic efflux	Major facilitator superfamily (MFS) antibiotic efflux pump
MH618488.1_63	38653	39033	-	200	23.8682	vanT gene in vanE cluster	30.3	3002971	Glycopeptide	Target alteration	Glycopeptide resistance gene; vanT
MH618488.1_66	39875	40315	-	420	23.8682	OXA-140	30.38	3001452	Carbapenem; cephalosporin;	Inactivation	OXA beta-lactamase
MH618488.1_67	40470	41276	-	700	26.9498	cmx	41.86	3002703	Phenicol antibiotic	Antibiotic efflux	Major facilitator superfamily (MFS) antibiotic efflux pump
MH618488.1_68	41325	41999	-	75	26.1794	qacJ	35.71	3007014	Disinfecting agents and antiseptics	Antibiotic efflux	Small multidrug resistance [37] antibiotic efflux pump
MH618488.1_69	42110	42865	-	200	26.1794	vanX gene in vanO cluster	41.67	3002954	Glycopeptide antibiotic	Target alteration	VanX; Glycopeptide

											resistance gene cluster
MH618488.1_70	42877	44412	-	375	26.9498	AcrAB-TolC	34.04	3003807	Fluoroquinolone; tetracycline	Target alteration;	Resistance-nodulation-cell division
MH618488.1_71	44469	45740	-	500	27.7202	aadS	23.85	3004683	Aminoglycoside	Inactivation	ANT(6)
MH618488.1_73	46070	46450	-	450	25.0238	aadA9	30	3002609	Aminoglycoside	Inactivation	ANT(3")
MH618488.1_74	46428	47027	-	600	26.5646	emrK	47.83	3000206	Tetracycline	Antibiotic efflux	Major facilitator superfamily (MFS)
MH618488.1_75	47308	47622	+	1080	23.483	rosB	42.11	3003049	Peptide antibiotic	Antibiotic efflux	Major facilitator superfamily (MFS)
MH618488.1_76	47622	47879	+	500	22.3274	APH (6)-Id	32.65	3002660	Aminoglycoside	Inactivation	APH(6)
MH618488.1_77	47881	48324	+	700	25.7942	DHA-2	55	3002133	Cephalosporin;	Inactivation	DHA beta-lactamase
MH618488.1_78	48328	48465	+	900	22.3274	tet(O/W/32/O)	33.33	3007122	Tetracycline	Target protection	Tetracycline-resistant ribosomal
MH618488.1_79	48490	48750	+	450	24.2534	OXA-573	43.75	3005325	Carbapenem; cephalosporin;	Inactivation	OXA beta-lactamase
MH618488.1_80	48752	48958	+	2300	25.0238	evgS	44.44	3000833	Macrolide; fluoroquinolone	Antibiotic efflux	Major facilitator superfamily (MFS) efflux pump;
MH618488.1_81	48948	49250	+	2200	23.483	ileS resistance to mupirocin	50	3003730	Mupirocin-like antibiotic	Target alteration	Antibiotic-resistant isoleucyl-tRNA synthetase (ileS)
MH618488.1_83	50092	50757	+	400	26.1794	catB8	34.38	3002680	Phenicol antibiotic	Inactivation	Chloramphenicol acetyltransferase (CAT)
MH618488.1_85	51627	51845	+	450	24.2534	rmtH	46.15	3003198	Aminoglycoside antibiotic	Target alteration	16S rRNA methyltransferase (G1405)
MH618488.1_86	51847	52059	+	1700	29.6462	LpeB	43.48	3004100	Macrolide antibiotic	Antibiotic efflux	Resistance-nodulation-cell division (RND) antibiotic efflux pump

MH618488.1_88	54054	54488	-	850	26.1794	hp1181	28	3003964	Fluoroquinolone; tetracycline; nitroimidazole	Antibiotic efflux	Major facilitator superfamily (MFS) efflux pump
MH618488.1_89	54625	54879	-	1000	25.7942	MCR-3.12	37.04	3004693	Peptide antibiotic	Target alteration	MCR phosphoethanol amine transferase
MH618488.1_91	55161	55535	-	1900	26.9498	MexK	28.21	3003693	Macrolide; tetracycline	Antibiotic efflux	Resistance- modulation-cell division (RND)
MH618488.1_94	56015	56254	-	500	23.8682	APH (6)-Ia	26.83	3002657	Aminoglycoside antibiotic	Inactivation	APH(6)
MH618488.1_95	57112	57624	-	725	25.409	SRT-1	25.3	3002493	Cephalosporin	Inactivation	SRT beta- lactamase
MH618488.1_96	57627	57809	-	200	23.8682	tet(37)	37.5	3002871	Tetracycline antibiotic	Inactivation	Tetracycline inactivation enzyme