

Electronic Supplementary Material

A Novel Vibriophage vB_VcaS_HC Containing Lysogeny-Related Gene Has Strong Lytic Ability against Pathogenic Bacteria

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Table. S1 Effects of rifampicin on the vB_VcaS_HC amplification.

Phage	Rifampicin ($\mu\text{g/mL}$)	Number of plaques ($\times 10^8$)
vB_VcaS_HC	0	40 ± 7
	5	0
	10	0
	20	0

Table S2 Thirty-five functionally-annotated ORFs of the genome of phage vB_VcaS_HC.

ORF no.	Best hit organism	Accession No.	E value	Identity (%)	Query Cover (%)	Putative product
1	<i>Vibrio</i> phage Ares	AUR81147.1	2E-89	72.22	99	Putative protein-tyrosine phosphatase
3	<i>Vibrio</i> phage Ares1	AUR81108.1	0	76.34	99	Pyruvate phosphate dikinase
4	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR95923.1	2E-23	44.44	83	Coil containing protein
8	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR95920.1	0	86.66	96	Terminase large subunit
9	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR95919.1	8E-144	74.72	100	Coil containing protein, partial
14	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR96019.1	3E-105	79.89	100	Ribonuclease H-like domain protein
15	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR96018.1	0	77.04	99	Rubredoxin-type fold protein
17	<i>Vibrio</i> phage Ares1	AUR81122.1	0	97.21	100	Reca protein
19	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR96014.1	1E-66	63.33	100	Putative DNA-binding domain protein
20	<i>Vibrio</i> phage Ares1	AUR81116.1	0	90.53	100	Putative DNA helicase
24	<i>Vibrio</i> phage Ares1	AUR81114.1	0	90.68	100	Replicative DNA helicase
26	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR96007.1	7E-67	33.81	93	Winged helix-turn-helix DNA-binding domain protein
27	<i>Vibrio</i> phage Ares1	AUR81119.1	0	85.93	99	AAA family atpase
28	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR96005.1	4E-78	63.07	98	Tmhelix containing protein
37	<i>Vibrio</i> phage Ares1	AUR81106.1	0	74.62	100	Tail length tape measure protein
39	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR95994.1	3E-139	78.41	100	Major tail protein
40	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR95993.1	2E-69	67.97	94	Tail-completion protein
41	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR95992.1	1E-77	76.32	98	Neck protein
42	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR95991.1	2E-92	61.21	100	Head completion adaptor
43	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR95990.1	1E-36	69.23	100	Coil containing protein
44	<i>Vibrio</i> phage Ares1	AUR81128.1	0	87.34	100	Major capsid protein
46	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR95987.1	2E-112	76.35	100	Putative serine protease xkdf
49	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR95984.1	3E-143	74.13	98	Coil containing protein
61	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR95974.1	1E-23	37.99	88	Coil containing protein
72	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR95960.1	7E-21	46.53	98	Coil containing protein
90	<i>Pseudoalteromonas luteoviolacea</i>	WP_06336984.1	3.77E-14	33.53	61	DUF550 domain-containing protein
93	<i>Vibrio</i> phage 1.215.A_10N.222.54.F7	AUR95946.1	8E-69	45.97	91	Coil containing protein
101	<i>Vibrio</i> phage	AUR95942.1	1E-58	60.96	94	Putative zinc- or iron-

	1.215.A._10N.222.54.F7					chelating domain containing protein SEC-C motif protein
103	<i>Vibrio</i> phage 1.215.A._10N.222.54.F7	AUR95943.1	7E-12	63.27	40	
113	<i>Vibrio</i> phage Ares1	AUR81179.1	5E-44	61.48	92	Putative DNA polymerase I
115	<i>Vibrio</i> phage 1.215.A._10N.222.54.F7	AUR95933.1	8E-59	65.41	96	Tmhelix containing protein
116	<i>Clostridiales bacterium</i> 52_15	OKZ68689.1	1.34E- 38	41.95	80	DNA methyltransferase
118	<i>Vibrio</i> phage 1.215.A._10N.222.54.F7	AUR95930.1	0	71.52	100	Portal protein
119	<i>Vibrio</i> phage vB_VhaS-a	ANO57605.1	0	77.79	99	DNA polymerase I
120	<i>Vibrio</i> phage 1	AAL85290.1	3.01E- 82	72.73	58	Transporter



Fig. S1. Comparison of RecA protein sequences between phage vB_VcaS_HC and VHS1.



Fig. S2. The results of dot plaque assay after adding phage vB_VcaS_HC to host-covered plate.