

Supplementary Table 1. Putative open reading frames (ORFs) of bacteriophage KΦ1 and their predicted functions.

No.	Locus tag (ORF)	5' end	3' end	Predicted function (Pfam)	Protein length (amino acids)	Taxon	% identity	P-value
1	KΦ1_1	18	128	Hypothetical protein	36	Unknown		
2	KΦ1_2	440	2272	Putative phage helicase	610	<i>Xanthomonas</i> phage OP2	78.9	0
3	KΦ1_3	2341	2544	Hypothetical protein	67	Unknown		
4	KΦ1_4	2544	2867	Hypothetical protein	107	Unknown		
5	KΦ1_5	2968	3735	DNA methylase family protein	255	<i>Burkholderia</i> phage Bcep43	51.6	1.0E-60
6	KΦ1_6	3772	5742	DNA polymerase I	656	<i>Xanthomonas</i> phage OP2	76.3	0
7	KΦ1_7	5745	5945	Hypothetical protein	66	Unknown		
8	KΦ1_8	6521	6712	Hypothetical protein	63	Unknown		
9	KΦ1_9	6709	7143	Conserved hypothetical protein	144	<i>Xanthomonas</i> phage OP2	51.8	1.0E-21
10	KΦ1_10	7143	7460	Conserved hypothetical protein	105	<i>Xanthomonas</i> phage OP2	61.5	3.0E-24
11	KΦ1_11	7477	8340	Conserved hypothetical protein	287	<i>Xanthomonas</i> phage OP2	41.4	2.0E-15
12	KΦ1_12	8709	8996	Hypothetical protein	95	Unknown		
13	KΦ1_13	9253	9687	Conserved hypothetical protein	144	<i>Xanthomonas</i> phage OP2	74.3	2.0E-55
14	KΦ1_14	9700	11184	Conserved hypothetical protein	494	<i>Xanthomonas</i> phage OP2	71.7	1.0E-163
15	KΦ1_15	11739	11209	Conserved hypothetical protein	176	<i>Xanthomonas</i> phage OP2	69.9	6.0E-66
16	KΦ1_16	12185	11739	Conserved hypothetical protein	149	<i>Xanthomonas</i> phage OP2	53.6	7.0E-34
17	KΦ1_17	12691	12182	DNA-directed RNA polymerase	169	<i>Xanthomonas</i> phage OP2	71.9	3.0E-63
18	KΦ1_18	12687	12948	Conserved hypothetical protein	176	<i>Xanthomonas</i> phage OP2	69.9	6.0E-66
19	KΦ1_19	13448	12945	Conserved hypothetical protein	167	<i>Xanthomonas</i> phage OP2	71.3	4.0E-64
20	KΦ1_20	13887	13462	Conserved hypothetical protein	141	<i>Xanthomonas</i> phage OP2	72.9	7.0E-50
21	KΦ1_21	14013	14249	Hypothetical protein	78	Unknown		
22	KΦ1_22	15313	14375	Phage capsid and scaffold	312	<i>Xanthomonas</i> phage OP2	76.9	1.0E-140
23	KΦ1_23	15957	15424	Putative structural protein	177	<i>Xanthomonas</i> phage OP2	76.3	4.0E-60
24	KΦ1_24	17112	15973	Conserved hypothetical protein	379	<i>Xanthomonas</i> phage OP2	71.3	1.0E-123
25	KΦ1_25	18072	17188	Head protein	294	<i>Xanthomonas</i> phage OP2	67	1.0E-108
26	KΦ1_26	19681	18047	Conserved hypothetical protein	544	<i>Xanthomonas</i> phage OP2	74.9	0
27	KΦ1_27	21196	19730	Phage terminase, large subunit	488	<i>Xanthomonas</i> phage OP2	83.8	0

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28	KΦ1_28	21678	21193	Conserved hypothetical protein	161	<i>Xanthomonas</i> phage OP2	78.7	1.0E-55
29	KΦ1_29	21918	22760	Conserved hypothetical protein	280	<i>Xanthomonas</i> phage OP2	59.7	7.0E-73
30	KΦ1_30	22819	23169	Conserved hypothetical protein	116	<i>Xanthomonas</i> phage OP2	61.5	1.0E-39
31	KΦ1_31	23169	23393	Hypothetical protein	74	Unknown		
32	KΦ1_32	23390	23623	Hypothetical protein	77	Unknown		
33	KΦ1_33	23607	24026	Conserved hypothetical protein	139	<i>Xanthomonas</i> phage OP2	33.6	3.0E-12
34	KΦ1_34	24099	24737	Conserved hypothetical protein	212	<i>Xanthomonas</i> phage OP2	50.5	2.0E-30
35	KΦ1_35	24791	24910	Hypothetical protein	39	Unknown		
36	KΦ1_36	24964	25329	Hypothetical protein	121	Unknown		
37	KΦ1_37	25322	25951	Conserved hypothetical protein	209	Unknown		
38	KΦ1_38	25948	26490	Hypothetical protein	180	<i>Xanthomonas</i> phage OP2	43.3	7.0E-22
39	KΦ1_39	26511	26891	Endodeoxyribonuclease RusA family protein	126	<i>Burkholderia</i> phage BcepNY3	49.2	3.0E-18
40	KΦ1_40	26888	27259	Hypothetical protein	123	Unknown		
41	KΦ1_41	27256	28014	Hypothetical protein	252	Unknown		
42	KΦ1_42	28026	28550	Lytic enzyme	174	<i>Xanthomonas</i> phage OP2	73.4	7.0E-66
43	KΦ1_43	28547	28768	Unknown	73	Unknown		
44	KΦ1_44	28758	29255	Conserved hypothetical protein	165	<i>Xanthomonas</i> phage OP2	74.7	8.0E-57
45	KΦ1_45	30713	29289	Tail fiber protein	474	<i>Burkholderia</i> phage BcepNY3	53.2	9.0E-65
46	KΦ1_46	30723	31403	Conserved hypothetical protein	226	<i>Xanthomonas</i> phage OP2	77.1	1.0E-102
47	KΦ1_47	32671	31403	Baseplate J-like protein	422	<i>Xanthomonas</i> phage OP2	73.5	1.0E-157
48	KΦ1_48	33354	32689	Baseplate protein	221	<i>Xanthomonas</i> phage OP2	73.2	2.0E-71
49	KΦ1_49	33572	33351	Conserved hypothetical protein	73	<i>Xanthomonas</i> phage OP2	47.7	2.0E-09
50	KΦ1_50	34470	33574	Conserved hypothetical protein	298	<i>Xanthomonas</i> phage OP2	64.3	1.0E-104
51	KΦ1_51	36302	34467	Tail length tape measure protein	611	<i>Xanthomonas</i> phage OP2	53.4	1.0E-123
52	KΦ1_52	36971	36306	Conserved hypothetical protein	221	<i>Xanthomonas</i> phage OP2	71.1	3.0E-76
53	KΦ1_53	37373	36975	Conserved hypothetical protein	132	<i>Xanthomonas</i> phage OP2	76.7	8.0E-51
54	KΦ1_54	37747	37370	Unknown	125	Unknown		
55	KΦ1_55	38259	37720	Conserved hypothetical protein	179	<i>Xanthomonas</i> phage OP2	71.9	3.0E-56
56	KΦ1_56	39099	38380	Tail fiber protein	239	<i>Xanthomonas</i> phage OP2	60.7	5.0E-14

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57	KΦ1_57	39580	39167	Conserved hypothetical protein	137	<i>Xanthomonas</i> phage OP2	53.7	5.0E-30
58	KΦ1_58	39846	39577	Conserved hypothetical protein	89	<i>Xanthomonas</i> phage OP2	73.3	3.0E-31
59	KΦ1_59	40601	43084	DNA primase	827	<i>Burkholderia</i> phage BcepNY3	49.9	0
60	KΦ1_60	43159	44013	Hypothetical protein	284	Unknown		
61	KΦ1_61	44017	44322	Conserved hypothetical protein	101	<i>Xanthomonas</i> phage OP2	54.5	1.0E-19
62	KΦ1_62	44319	44528	Unknown	69	Unknown		
63	KΦ1_63	44525	44989	Conserved hypothetical protein	154	<i>Xanthomonas</i> phage OP2	42.9	5.0E-08
64	KΦ1_64	44986	45168	Hypothetical protein	60	Unknown		
65	KΦ1_65	45165	45431	Hypothetical protein	88	Unclassified phages	51.6	5.0E-16
66	KΦ1_66	45511	45672	Hypothetical protein	53	Unknown		