

Table S1: Predicted ORF characteristics of phage 9871, showing closest match using the NCBI BLAST database, percentage amino acid identity and percentage query coverage.

ORF	Start	End	Strand	Size (aa)	Putative function	Best match (% aa identity/% query coverage)	e value
1	64	174	+	37	TerS, partial	gp172, partial, <i>Streptococcus</i> phage Sfi11 (100/62)	3e-06
2	179	592	+	137	Hypothetical protein	Hypothetical protein, <i>Lactococcus lactis</i> (92/100)	9e-83
3	585	1973	+	462	TerL	Putative terminase large subunit, <i>Lactococcus</i> phage ul36 (98/100)	0.0
4	1974	3314	+	446	Portal	Portal protein, <i>Lactococcus lactis</i> (95/99)	0.0
5	3318	4358	+	346	Minor capsid protein	Hypothetical protein Tuc2009_32, <i>Lactococcus</i> phage Tuc2009 (95/99)	0.0
6	4475	5074	+	199	Scaffolding protein	Scaffolding protein, <i>Lactococcus lactis</i> (93/99)	6e-113
7	5090	5953	+	287	Major capsid protein	Capsid protein, <i>Lactococcus lactis</i> (94/100)	0.0
8	6019	6210	+	63	Hypothetical protein	Hypothetical protein, <i>Lactococcus lactis</i> (97/100)	6e-32
9	6224	6556	+	110	Head-tail connector protein	Hypothetical protein, <i>Lactococcus lactis</i> (99/100)	2e-69
10	6553	6864	+	103	Hypothetical protein	Hypothetical protein, <i>Lactococcus garvieae</i> (97/100)	5e-68
11	6861	7187	+	108	Hypothetical protein	Hypothetical protein Tuc2009_41, <i>Lactococcus</i> phage Tuc2009 (97/100)	3e-71
12	7184	7573	+	129	Tail terminator protein	Major structural protein 2, <i>Lactococcus</i> phage Tuc2009 (95/100)	1e-86
13	7584	8081	+	165	Major tail protein	Hypothetical protein, <i>Lactococcus lactis</i> (98/100)	8e-112
14	8197	8547	+	116	Tail chaperone protein	Hypothetical protein, <i>Lactococcus lactis</i> (97/100)	1e-71
15	8631	8900	+	89	Hypothetical protein	Hypothetical protein, <i>Lactococcus lactis</i> (100/100)	5e-56
16	8916	11666	+	916	Tape measure protein	Tail protein <i>Lactococcus garvieae</i> (82/99)	0.0
17	11676	12437	+	253	Putative distal tail	Hypothetical protein LLT6_11080 <i>Lactococcus lactis</i> subsp. <i>cremoris</i> TIFN6 (95/100)	2e-177
18	12437	15169	+	910	Tail-associated lysin	Peptidase M23, <i>Lactococcus lactis</i> (72/100)	0.0
19	15181	17124	+	647	Antireceptor	Hypothetical protein P620_05350, <i>Lactococcus lactis</i> subsp. <i>lactis</i> KLDS 4.0325 (88/41)	1e-172
20	17200	17727	+	175	Serine acetyltransferase	Serine acetyltransferase, <i>Clostridium</i> sp. SS2/1 (55/98)	4e-58
21	17861	18085	+	74	Holin	Holin, <i>Lactococcus lactis</i> (99/100)	8e-43
22	18112	18357	+	81	Holin	orf27, <i>Streptococcus</i> phage 858 (89/100)	2e-41
23	18359	18961	+	200	Lysin	ORF44, <i>Streptococcus</i> phage 7201 (91/99)	2e-130
24	19168	19353	+	61	Endonuclease	Hypothetical protein DT1p24, <i>Streptococcus</i> phage DT1 (97/100)	2e-32

25	19420	19647	+	75	Lysin	Lysin, <i>Streptococcus</i> phage ALQ13.2 (88/100)	5e-34
26	19713	19850	+	45	Hypothetical protein	(None)	N/A
27	20215	20418	+	67	Cro-like protein	Putative cro homolog, <i>Streptococcus</i> phage TP-J34 (84/100)	6e-34
28	20459	21403	+	314	Hypothetical protein	Hypothetical protein X841_03540, <i>Streptococcus thermophilus</i> M17PTZA496 (97/100)	0.0
29	21396	21935	+	179	Hypothetical protein	Hypothetical protein, <i>Streptococcus</i> phage 20617 (94/98)	5e-114
30	22058	22267	+	69	Cro-like repressor	Putative cro repressor, <i>Streptococcus</i> phage 5093 (100/100)	4e-41
31	22284	22406	+	40	Hypothetical protein	gp40, <i>Streptococcus</i> phage Sfi11 (100/100)	1e-18
32	22657	23526	+	289	Primosome component	Putative primosome component, <i>Streptococcus</i> phage TP-J34 (95/100)	0.0
33	23538	24320	+	260	DNA replication protein	Helicase, <i>Streptococcus</i> phage 20617 (96/100)	0.0
34	24317	24511	+	64	Hypothetical protein	ORF6a, <i>Streptococcus</i> phage 7201 (97/90)	3e-32
35	24636	25463	+	275	RecT recombinase	Hypothetical protein, <i>Lactococcus garvieae</i> (61/93)	6e-107
36	25456	26292	+	278	Nuclease	Nuclease, <i>Streptococcus suis</i> (62/97)	2e-124
37	26332	26976	+	214	Hypothetical protein	Hypothetical protein, <i>Streptococcus suis</i> (71/98)	3e-104
38	26991	27437	+	148	Single-stranded DNA-binding protein	ORF9, <i>Streptococcus</i> phage 7201 (91/100)	7e-92
39	27452	28006	+	184	HNH endonuclease	Hypothetical protein, <i>Lactobacillus brevis</i> (48/97)	6e-51
40	28003	28464	+	153	Endodeoxyribonuclease RusA	Hypothetical protein, <i>Streptococcus</i> phage Abc2 (94/100)	4e-101
41	28525	28695	+	56	Hypothetical protein	Hypothetical protein SPV2972_gp40, <i>Streptococcus</i> phage 2972 (95/100)	1e-28
42	28686	28859	+	57	Hypothetical protein	Hypothetical protein Sfi19p39, <i>Streptococcus</i> phage Sfi19 (95/100)	1e-29
43	28856	29011	+	51	Hypothetical protein	Hypothetical protein SPV2972_gp41 <i>Streptococcus</i> phage 2972 (90/100)	5e-23
44	29144	29632	+	162	Hypothetical protein	Hypothetical protein X841_03635, <i>Streptococcus thermophilus</i> M17PTZA496 (78/100)	7e-84
45	29633	30145	+	170	DNA binding protein	DNA binding protein, <i>Streptococcus</i> phage 2972 (95/100)	3e-113
46	30148	30960	+	270	DNA methyltransferase	DNA methyltransferase, <i>Streptococcus agalactiae</i> (73/92)	3e-130
47	30893	31183	+	96	Hypothetical protein	Hypothetical protein, <i>Streptococcus</i> phage ALQ13.2 (84/96)	3e-50
48	31187	31894	+	235	Hypothetical protein	ORF18, <i>Streptococcus</i> phage 7201 (91/100)	7e-156
49	31960	32121	-	53	Hypothetical protein	CDP-diacylglycerol--serine O-phosphatidyltransferase, <i>Sulfurovum lithotrophicum</i> (41/67)	8.4

