

Supplementary information

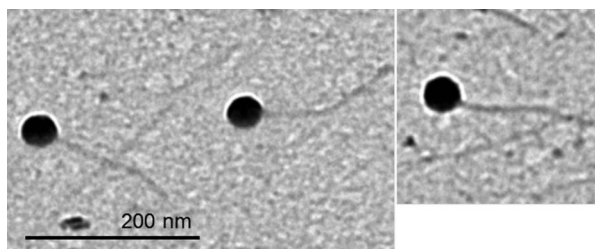


Figure S1. Morphological features of the phage SAP-26 analyzed by TEM.

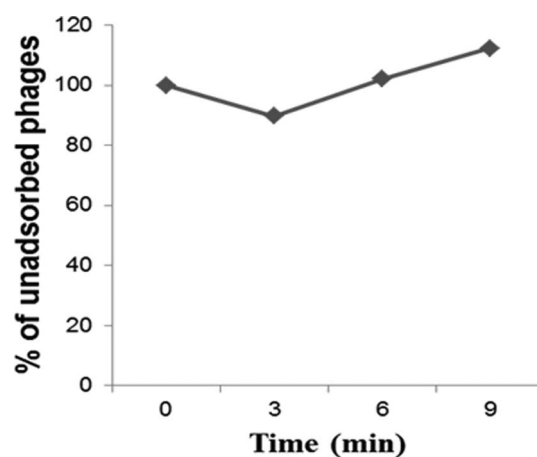


Figure S2. Bacteriophage adsorption assay with *S. aureus* strains 04st535 that are resistant to the phage SAP-26.

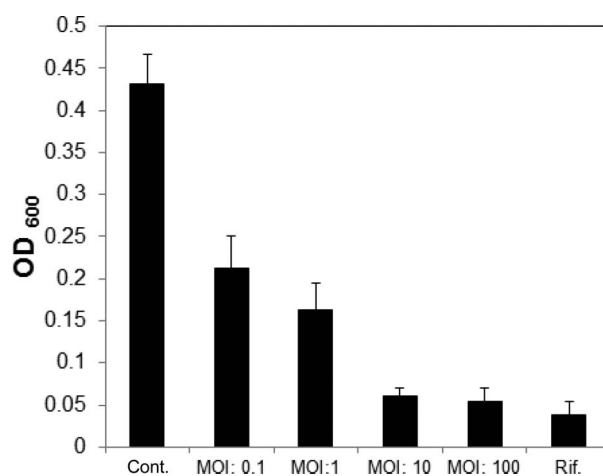


Figure S3. Effects of phage treatment on planktonic cultures of *S. aureus* D43-a at different MOI. An overnight culture of *S. aureus* (10^7 CFU) was treated with phage at MOI 0.1, 1, 10, 100, and rifampicin at MIC value ($0.06 \mu\text{g ml}^{-1}$) followed by incubation at 37°C for an additional 6 h. The viable cells were estimated by measuring the OD₆₀₀ value. MOI signifies multiplicity of infection.

Table 1. Features of bacteriophage SAP26 ORFs, gene products, and functional assignments.

ORF	Start position	Stop position	No. of AA	Size (kDa)	Predictive function	Closest hit (e value)	% identity (No. of AAs)	Accession no.
1	51	908	286	33.0	Phage portal protein	<i>S. aureus</i> phage phiNM1 (4e-163)	99 (285)	ABF73069.1
2	918	1910	331	38.4	Phage head morphogenesis protein	<i>S. aureus</i> phage phiNM (0.0)	99 (329)	YP_873989.1
3	1986	2153	56	6.5	Hypothetical protein	<i>S. aureus</i> phage phiNM (1e-23)	100 (56)	YP_873990.1
4	2291	2902	204	23.7	Hypothetical protein	<i>S. aureus</i> phage phiNM2 (4e-109)	99 (202)	ABF73138.1
5	2919	3890	324	36.7	Head protein	<i>S. aureus</i> phage phiNM (0.0)	98 (318)	YP_873992.1
6	3915	4199	95	10.9	Hypothetical protein	<i>S. aureus</i> phage phiSauS-IPLA88 (2e-43)	90 (85)	YP_002332518.1

(continued)

Table 1. (Continued).

ORF	Start position	Stop position	No. of AA	Size (kDa)	Predictive function	Closest hit (e value)	% identity (No. of AAs)	Accession no.
7	4211	4540	110	12.7	Putative DNA packaging protein	<i>S. aureus</i> phage phiSauS-IPLA88 (5e-55)	94 (104)	YP_002332519.1
8	4540	4839	100	11.7	Hypothetical protein	<i>S. aureus</i> phage phiMR25 (2e-48)	93 (93)	YP_001949848.1
9	4842	5186	115	13.5	Hypothetical protein	<i>S. aureus</i> phage phiMR25 (4e-61)	98 (113)	YP_001949849.1
10	5201	5581	127	14.7	Hypothetical protein	<i>S. aureus</i> phage phiNM2 (9e-69)	99 (126)	ABF73144.1
11	5603	6181	193	21.4	Major tail protein	<i>S. aureus</i> phage phiNM2 (3e-108)	98 (191)	ABF73145.1
12	6246	6608	121	13.0	Hypothetical protein	<i>S. aureus</i> phage phiNM (6e-60)	98 (119)	YP_873999.1
13	6641	6982	114	12.5	Hypothetical protein	<i>S. aureus</i> subsp. aureus Mu50 (4e-41)	73 (84)	BAB57062.1
14	7002	10466	1155	125.6	Phage tape measure protein	<i>S. aureus</i> phage phiNM1 (0.0)	96 (1115)	ABF73082.1
15	10482	11426	315	37.0	Hypothetical protein	<i>S. aureus</i> phage phiETA2 (0.0)	98 (311)	YP_001004317.1
16	11438	13336	633	70.1	Hypothetical protein	<i>S. aureus</i> phage phiNM (0.0)	97 (616)	YP_874003.1
17	13354	15261	636	73.6	Hypothetical protein	<i>S. aureus</i> phage phiNM2 (0.0)	99 (630)	ABF73151.1
18	15264	17084	607	66.9	Hypothetical protein	<i>S. aureus</i> phage phiNM4 (0.0)	98 (598)	ABF73285.1
19	17078	17461	128	14.4	Hypothetical protein	<i>S. aureus</i> phage phiNM4 (8e-64)	96 (121)	ABF73286.1
20	17464	17637	58	7.1	Hypothetical protein	<i>S. aureus</i> phage phiNM2 (2e-23)	94 (55)	ABF73154.1
21	17681	17977	99	12.0	Hypothetical protein	<i>S. aureus</i> phage phiNM1 (7e-48)	97 (97)	ABF73089.1
22	18117	20012	632	71.9	Cell wall hydrolase	<i>S. aureus</i> phage phiNM1 (0.0)	98 (625)	ABF73090.1
23	20028	21263	412	46.2	Tail fiber	<i>S. aureus</i> phage phiNM1 (0.0)	88 (365)	ABF73091.1
24	21271	21663	131	14.4	Hypothetical protein	<i>S. aureus</i> phage phiNM2 (7e-68)	99 (130)	ABF73158.1
25	21723	21974	84	9.6	Phage holin	<i>S. aureus</i> phage P954 (6e-42)	98 (83)	YP_003169696.1
26	21989	22741	251	29.0	Phage amidase	<i>S. aureus</i> phage phiN315 (5e-145)	98 (248)	NP_835574.1
27	23050	24027	326	37.7	Hypothetical conserved protein	<i>S. aureus</i> phage 52A (1e-32)	96 (73)	YP_240636.1
28	24037	24771	245	29.0	Conserved hypothetical protein	<i>S. aureus</i> phage 80 (4e-137)	98 (242)	ABJ88908.1
29	25090	26136	349	41.8	Integrase	<i>S. aureus</i> phage phiNM1 (2e-108)	54 (190)	ABF73031.1
30	26202	26714	171	19.2	gp2	<i>S. aureus</i> phage phiSauS-IPLA88 (1e-91)	98 (169)	ACJ64531.1
31	26721	27260	180	21.1	gp3	<i>S. aureus</i> phage phiSauS-IPLA88 (4e-89)	100 (166)	ACJ64532.1
32	27272	27907	212	24.3	Phage repressor protein	<i>S. aureus</i> phage Phi NM1 (2e-60)	98 (209)	ABF73034.1
33	28098	28349	84	9.9	Transcription regulator	<i>S. aureus</i> phage phiPVL-CN125 (6e-39)	94 (79)	ACR54192.1
34	28368	29156	263	30.1	Phage anti-repressor	<i>S. phage</i> Phi NM2 (4e-148)	98 (255)	ABF73100.1
35	29160	29381	74	8.8	Hypothetical protein	<i>S. aureus</i> phage 11 (5e-35)	100 (74)	NP_803261.1

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Table 1. (Continued).

ORF	Start position	Stop position	No. of AA	Size (kDa)	Predictive function	Closest hit (e value)	% identity (No. of AAs)	Accession no.
36	29460	29870	137	15.9	Hypothetical protein	<i>S. aureus</i> phage phiETA3 (7e-75)	100 (137)	YP_001004339.1
37	29887	30105	73	8.5	Hypothetical protein	<i>S. aureus</i> phage phiETA3 (2e-33)	98 (72)	YP_001004340.1
38	30269	30586	106	12.7	Unknown	<i>S. aureus</i> phage X2 (4e-49)	87 (93)	YP_240868.1
39	30683	30940	86	10.1	Phi PVL orf 39- like protein	<i>S. aureus</i> phage phi13 (1e-36)	88 (76)	NP_803365.1
40	30992	31171	60	7.0	Hypothetical protein	<i>S. aureus</i> phage phiMR25 (8e-27)	98 (59)	YP_001949812.1
41	31167	31943	259	29.5	Hypothetical protein	<i>S. aureus</i> phage phiPVL-CN125 (2e-104)	97 (185)	YP_002939685.1
42	31976	32527	184	21.4	Single stranded DNA binding protein	<i>S. aureus</i> phage phiPVL108 (3e-53)	62 (115)	YP_918909.1
43	32543	33211	223	26.0	Hypothetical protein	<i>S. aureus</i> phage phage phiPVL108 (2e-127)	98 (219)	YP_918910.1
44	33211	33327	39	4.5	Conserved Hypothetical protein	<i>S. aureus</i> subsp. aureus ED98 (7e-13)	100 (39)	YP_003281759.1
45	33327	33983	219	25.2	Hypothetical protein	<i>Strep. pyogenes</i> phage NZ131.3 (3e-19)	38 (130)	YP_002286483.1
46	34029	34796	256	29.6	Phage replication protein	<i>S. aureus</i> phage phiPVL108 (2e-132)	97 (250)	YP_918912.1
47	34809	35579	257	29.9	Hypothetical protein	<i>S. aureus</i> phage phiPVL-CN125 (7e-149)	98 (253)	YP_002939692.1
48	35748	35966	73	8.5	Hypothetical protein	<i>S. aureus</i> phage phiPVL108 (3E-32)	93(63)	YP_918915.1
49	35980	36381	134	16.1	Hypothetical protein	<i>S. aureus</i> phage phiPVL-CN125 (1e-71)	98 (134)	YP_002939694.1
50	36389	36571	61	7.3	Hypothetical protein	<i>S. aureus</i> phage phiETA2 (7e24)	90 (55)	YP_001004287.1
51	36575	36940	122	14.7	Hypothetical protein	<i>S. aureus</i> phage phiSLT DNA (4e-62)	96 (118)	NP_075488.1
52	36947	37186	80	9.6	Hypothetical protein	<i>S. aureus</i> phage phiMR25 (7e-40)	98 (79)	YP_001949826.1
53	37195	37452	86	9.7	Hypothetical protein	<i>S. aureus</i> phage phiNM3 (4e-38)	95 (79)	YP_908818.1
54	37445	37615	57	6.5	Hypothetical protein	<i>S. aureus</i> phage phiNM3 (2e-17)	77 (44)	YP_908819.1
55	37619	37897	93	11.3	Hypothetical protein	<i>S. aureus</i> subsp. aureus MW2 (5e-45)	97 (91)	NP_646234.1
56	37901	38059	53	6.7	Hypothetical protein	<i>S. aureus</i> subsp. aureus MW2 (2e-19)	96 (51)	BAB95281.1
57	38077	38607	177	20.5	Hypothetical protein	<i>S. aureus</i> phage phiNM (1e-94)	96 (170)	YP_873980.1
58	38647	38850	68	7.9	Hypothetical protein	<i>S. aureus</i> phage phiNM4 (2e-19)	89 (59)	ABF73259.1
59	38889	39020	44	5.0	Transcriptional activator RinB	<i>S. aureus</i> phage phiETA3 (5e-17)	97 (43)	YP_001004366.1
60	39081	39383	101	12.0	Hypothetical protein	<i>S. aureus</i> phage CNPH82 (2e-12)	41 (46)	YP_950661.1
61	39387	39530	48	5.8	Hypothetical protein	<i>S. aureus</i> phage phiNM (1e-10)	93 (45)	YP_873984.1
62	39548	39964	139	16.1	gp34	<i>S. aureus</i> phage phiSauS-IPLA88 (2e-75)	100	YP_002332509.1
63	40142	40591	150	17.2	Small terminase	<i>S. aureus</i> phage phiETA2 (1e-80)	98 (148)	YP_001004301.1