

***Staphylococcus aureus* (MRSA), Strain COL Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 6**

Catalog No. NR-19502

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For research use only. Not for use in humans.

Contributor:

Pathogen Functional Genomics Resource Center at the J. Craig Venter Institute

Manufacturer:

BEI Resources

Product Description:

Production in the 96-well format has increased risk of cross-contamination between adjacent wells. Individual clones should be purified (e.g., single colony isolation and purification using good microbiological practices) and sequence-verified prior to use. BEI Resources does not confirm or validate individual mutants provided by the contributor.

The methicillin-resistant *Staphylococcus aureus* (*S. aureus*), strain COL Gateway® clone set consists of 25 plates which contain 2343 sequence validated clones from *S. aureus* strain COL cloned in *Escherichia coli* (*E. coli*) DH10B-T1 cells. Each open reading frame was constructed in vector [pDONR™221](#) with a native start codon and no stop codon. The sequence was validated by full length sequencing of each clone with greater than 1X coverage and a mutation rate of less than 0.2%. Detailed information about each clone is shown in Table 1.

Information related to the use of Gateway® Clones can be obtained from [Invitrogen™](#). Recombination was facilitated through an *attB* substrate (*attB*-PCR product or a linearized *attB* expression clone) with an *attP* substrate (pDONR™221) to create an *attL*-containing entry clone. The entry clone contains recombinational cloning sites, *attL1* and *attL2* to facilitate gene transfer into a destination vector, M13 forward and reverse priming sites for sequencing and a kanamycin resistance gene for selection. Please refer to the [Invitrogen™ Gateway® Technology Manual](#) for additional details.

Plate orientation and viability were confirmed for NR-19502.

Material Provided:

Each inoculated well of the 96-well plate contains approximately 60 µL of culture in Luria Bertani (LB) broth containing 50 µg/mL kanamycin supplemented with 15% glycerol.

Packaging/Storage:

NR-19502 was packaged aseptically in a 96-well plate. The product is provided frozen and should be stored at -80°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

Growth Conditions:

Media:

LB broth or agar containing 50 µg/mL kanamycin

Incubation:

Temperature: 37°C

Atmosphere: Aerobic

Propagation:

1. Scrape top of frozen well with a pipette tip and streak onto agar plate.
2. Incubate the plates at 37°C for 1 day.

Citation:

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: *Staphylococcus aureus* (MRSA), Strain COL Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 6, NR-19502.”

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories (BMBL). Current Edition. Washington, DC: U.S. Government Printing Office.

Disclaimers:

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References:

- Gill, S. R., et al. "Insights on Evolution of Virulence and Resistance from the Complete Genome Analysis of an Early Methicillin-Resistant *Staphylococcus aureus* Strain and a Biofilm-Producing Methicillin-Resistant *Staphylococcus epidermidis* Strain." *J. Bacteriol.* 187 (2005): 2426-2438. PubMed: 15774886.

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Table 1: *Staphylococcus aureus*, Strain COL Gateway® Clones, Plate 6 (ZSAJF)¹

Clone	Well Position	ORF Length	Locus ID	Description	Accession Number	Average Depth of Coverage
1077	A01	391	SACOL0218	conserved hypothetical protein	YP_185117.1	3.16112532
1079	A02	391	SACOL0342	hypothetical protein	YP_185234.1	2.606138107
1081	A03	391	SACOL0350	conserved hypothetical protein	YP_185242.1	3.186700767
1084	A04	391	SACOL0876	arsenate reductase, putative	YP_185748.1	3.186700767
1085	A05	391	SACOL0949	Na ⁺ /H ⁺ antiporter, MnhG component	YP_185818.1	2
1087	A06	391	SACOL1044	conserved hypothetical protein	YP_185909.1	3.227621483
1089	A07	391	SACOL1725	ribosomal protein L20	YP_186563.1	3.212276215
1091	A08	391	SACOL2310	conserved hypothetical protein	YP_187117.1	2.613810742
1095	A09	391	SACOL2381	conserved hypothetical protein	YP_187185.1	3.21483376
1097	A10	391	SACOL2506	staphylococcal accessory regulator T	YP_187301.1	3.20971867
1101	A11	394	SACOL0466	membrane protein, putative	YP_185356.1	3.210659898
1104	A12	394	SACOL0943	conserved hypothetical protein	YP_185812.1	2.563451777
1106	B01	394	SACOL2061	holo-(acyl-carrier-protein) synthase	YP_186877.1	2.527918782
1108	B02	394	SACOL2223	ribosomal protein L18	YP_187033.1	3.187817259
1109	B03	394	SACOL2681	conserved hypothetical protein	YP_187468.1	3.203045685
1111	B04	397	SACOL0496	conserved hypothetical protein	YP_185384.1	3.201511335
1113	B05	397	SACOL0615	conserved hypothetical protein	YP_185500.1	3.161209068
1115	B06	397	SACOL0709	conserved hypothetical protein	YP_185591.1	3.20906801
1117	B07	397	SACOL0898	pathogenicity island protein	YP_185769.1	3.214105793
1120	B08	397	SACOL1383	large conductance mechanosensitive channel protein	YP_186236.1	3.198992443
1121	B09	397	SACOL1570	conserved hypothetical protein	YP_186411.1	3.214105793
1127	B10	400	SACOL0328	hypothetical protein	YP_185220.1	3.185
1131	B11	400	SACOL0623	conserved hypothetical protein	YP_185508.1	3.2
1133	B12	400	SACOL1007	protozoan/cyanobacterial globin family protein	YP_185875.1	2.61
1137	C01	400	SACOL1895	conserved hypothetical protein	YP_186721.1	3.2075
1139	C02	400	SACOL2215	ribosomal protein S13/S18	YP_187025.1	2.5775
1141	C03	400	SACOL2383	conserved hypothetical protein	YP_187187.1	3.1875
1143	C04	400	SACOL2481	hypothetical protein	YP_187278.1	3.1975
1145	C05	403	SACOL0443	conserved hypothetical protein TIGR01655	YP_185333.1	3.208436725
1147	C06	403	SACOL0586	ribosomal protein L7/L12	YP_185472.1	3.191066998
1149	C07	403	SACOL0629	conserved hypothetical protein	YP_185514.1	3.203473945
1151	C08	403	SACOL1328	glutamine synthetase repressor	YP_186183.1	3.196029777
1154	C09	403	SACOL2212	ribosomal protein L17	YP_187022.1	3.191066998
1155	C10	403	SACOL2229	ribosomal protein L14	YP_187039.1	3.183622829
1159	C12	406	SACOL0989	conserved hypothetical protein	YP_185857.1	3.174876847
1162	D01	406	SACOL1553	glyoxalase family protein	YP_186394.1	2
1163	D02	406	SACOL2408	lipoprotein, putative	YP_187211.1	3.192118227
1165	D03	409	SACOL0299	lipoprotein, putative	YP_185192.1	3.188264059
1167	D04	409	SACOL0672	staphylococcal accessory regulator A	YP_185556.1	3.173594132
1169	D05	409	SACOL0947	ComA2 family protein	YP_185816.1	3.188264059
1171	D06	409	SACOL1239	conserved hypothetical protein	YP_186099.1	2.190709046
1173	D07	412	SACOL0958	general stress protein 13	YP_185827.1	3.174757282

Clone	Well Position	ORF Length	Locus ID	Description	Accession Number	Average Depth of Coverage
1176	D08	412	SACOL1857	hypothetical protein	YP_186685.1	3.174757282
1178	D09	412	SACOL2590	glyoxalase family protein	YP_187381.1	3.194174757
1179	D10	415	SACOL0330	conserved hypothetical protein	YP_185222.1	3.175903614
1181	D11	415	SACOL0540	endoribonuclease L-PSP, putative	YP_185428.1	3.175903614
1184	D12	415	SACOL0628	conserved hypothetical protein	YP_185513.1	2.56626506
1185	E01	415	SACOL0877	glycine cleavage system H protein	YP_185749.1	2.6
1188	E02	415	SACOL1997	transcriptional regulator, GntR family	YP_186821.1	2.587951807
1189	E03	415	SACOL2733	conserved hypothetical protein	YP_187519.1	3.168674699
1192	E04	418	SACOL0153	conserved hypothetical protein	YP_185053.1	1.564593301
1195	E05	418	SACOL0956	kinase-associated protein B	YP_185825.1	3.157894737
1197	E06	418	SACOL1580	hypothetical protein	YP_186420.1	2.827751196
1200	E07	418	SACOL1854	hypothetical protein	YP_186684.1	2.588516746
1201	E08	418	SACOL2377	conserved hypothetical protein	YP_187181.1	3.153110048
1203	E09	418	SACOL2613	aspartate 1-decarboxylase	YP_187402.1	2.593301435
1205	E10	421	SACOL0880	Toprim domain protein	YP_185751.1	2.586698337
1208	E11	421	SACOL1193	cell division protein FtsL	YP_186055.1	2.596199525
1209	E12	421	SACOL1592	rhodanese-like domain protein	YP_186432.1	3.201900238
1213	F01	421	SACOL2434	membrane protein, putative	YP_187235.1	2.58432304
1215	F02	424	SACOL0385	conserved hypothetical protein	YP_185277.1	3.181603774
1217	F03	424	SACOL0419	hypothetical protein	YP_185311.1	3.188679245
1219	F04	424	SACOL0974	conserved hypothetical protein	YP_185842.1	3.162735849
1221	F05	424	SACOL1132	conserved hypothetical protein	YP_185996.1	3.183962264
1223	F06	424	SACOL1569	N utilization substance protein B	YP_186410.1	3.179245283
1225	F07	424	SACOL2214	ribosomal protein S11	YP_187024.1	3.176886792
1227	F08	424	SACOL2241	conserved hypothetical protein	YP_187051.1	3.188679245
1229	F09	427	SACOL0259	hypothetical protein	YP_185154.1	3.196721311
1231	F10	427	SACOL0277	hypothetical protein	YP_185172.1	3.194379391
1233	F11	427	SACOL0551	cell-division protein divIC, putative	YP_185439.1	3.170960187
1235	F12	427	SACOL0928	conserved hypothetical protein	YP_185798.1	3.180327869
1237	G01	427	SACOL1301	transcriptional regulator, putative	YP_186158.1	3.175644028
1239	G02	427	SACOL1442	IS1272-related, transposase, degenerate	N/A	3.196721311
1241	G03	427	SACOL2500	MutT/nudix family protein	YP_187295.1	3.18735363
1243	G04	430	SACOL0374	conserved hypothetical protein	YP_185266.1	3.16744186
1245	G05	430	SACOL0509	MutT/nudix family protein	YP_185397.1	1.579069767
1247	G06	430	SACOL0737	lipoprotein, putative	YP_185616.1	3.193023256
1249	G07	430	SACOL1002	conserved hypothetical protein	YP_185870.1	3.186046512
1251	G08	430	SACOL1824	arsenate reductase (thioredoxin)	YP_186656.1	2.586046512
1253	G09	430	SACOL1909	conserved hypothetical protein	YP_186734.1	2.604651163
1255	G10	430	SACOL2089	single-stranded DNA-binding protein family	YP_186904.1	2.595348837
1257	G11	430	SACOL2554_1	LrgA family protein	YP_187347.1	3.2
1261	G12	433	SACOL0698	glycerol-3-phosphate cytidyltransferase	YP_185580.1	3.166281755
1263	H01	433	SACOL0791	nrdI protein	YP_185665.1	3.15704388
1265	H02	433	SACOL2206	ribosomal protein S9	YP_187016.1	3.193995381
1267	H03	433	SACOL2225	ribosomal protein S8	YP_187035.1	3.180138568
1269	H04	436	SACOL0353	hypothetical protein	YP_185245.1	3.176605505
1271	H05	436	SACOL0373	conserved hypothetical protein	YP_185265.1	3.199541284
1273	H06	436	SACOL0552	general stress protein 13	YP_185440.1	3.197247706
1275	H07	436	SACOL1166	hypothetical protein	YP_186029.1	3.174311927
1277	H08	436	SACOL1219	conserved hypothetical protein	YP_186082.1	2
1279	H09	436	SACOL1436	hypothetical protein	YP_186288.1	3.174311927
1282	H10	436	SACOL1471	cell wall enzyme EbsB, putative	YP_186318.1	3.160550459
1283	H11	436	SACOL1986	conserved hypothetical protein	YP_186810.1	3.176605505

¹All information in this table was provided by the J. Craig Venter Institute at the time of deposition.