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 human use.

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 (Invitrogen™) 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 *att*B substrate (*att*B-PCR product or a linearized *att*B expression clone) with an *att*P substrate (pDONR™221) to create an *att*L-containing entry clone. The entry clone contains recombinational cloning sites, *att*L1 and *att*L2 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.

Material Provided:

Each inoculated well of the 96-well plate contains approximately 60 µL of *E. coli* culture (strain DH10B-T1) 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: *E. coli*, strain DH10B-T1 clones should be grown at 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 18 to 24 hours.

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. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

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References:

1. 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.

Support Provided by NIAID

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

Clone	Well Position	ORF Length	Locus ID	Description (Gene name)	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
1176	D08	412	SACOL1857	hypothetical protein	YP_186685.1	3.174757282
1178	D09	412	SACOL2590	glyoxalase family protein	YP_187381.1	3.194174757

Product Information Sheet for NR-19502

Clone	Well Position	ORF Length	Locus ID	Description (Gene name)	Accession Number	Average Depth of Coverage
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 cytidylyltransferase	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
1285	H12	436	SACOL2368	acetyltransferase, GNAT family	YP_187173.1	3.178899083

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