

SUPPORTING INFECTIOUS DISEASE RESEARCH

## **Product Information Sheet for NR-19505**

## Staphylococcus aureus (MRSA), Strain COL Gateway<sup>®</sup> Clone Set, Recombinant in Escherichia coli, Plate 9

## Catalog No. NR-19505

This reagent is the tangible property of the U.S. Government.

## 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 crosscontamination 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<sup>®</sup> 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<sup>®</sup> Clones can be obtained from Invitrogen<sup>™</sup>. Recombination was facilitated through an attB substrate (attB-PCR product or a linearized attB expression clone) with an attP substrate (pDONR<sup>™</sup>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<sup>™</sup> Gateway<sup>®</sup> Technology Manual for additional details.

#### **Material Provided:**

Each inoculated well of the 96-well plate contains approximately 60  $\mu$ L of *E. coli* culture (strain DH10B-T1) in Luria Bertani (LB) broth containing 50  $\mu$ g/mL kanamycin supplemented with 15% glycerol.

### Packaging/Storage:

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NR-19505 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

<u>Incubation</u>

Temperature: *E. coli*, strain DH10B-T1 clones should be grown at 37°C.

Atmosphere: Aerobic

Propagation:

- Scrape top of frozen well with a pipette tip and streak onto again plate.
- 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 9, NR-19505."

## 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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#### SUPPORTING INFECTIOUS DISEASE RESEARCH

## **Product Information Sheet for NR-19505**

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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 Biofilm-Producing Methicillin-Resistant Staphylococcus epidermidis Strain." J. Bacteriol. 187 (2005): 2426-2438. PubMed: 15774886.

ATCC® is a trademark of the American Type Culture Collection.

Table 1: Staphylococcus aureus, Strain COL Gateway® Clones, Plate 9 (ZSAJI)

Position   Length					D		
1697	Clone	Well	ORF	Locus ID	Description (Gene name)	Accession	Average Depth
1703   A02   532   SACOL2706   hypothetical protein   YP   187492.1   2   2   1707   A03   535   SACOL0286   conserved hypothetical protein   YP   185181.1   3.145794393   1719   A04   S35   SACOL0585   fibosomal protein L10   YP   185471.1   3.14953271   1721   A05   S35   SACOL0789   GTP cyclohydrolase I family protein   YP   185608.1   2.750841122   1723   A06   535   SACOL1457   PTS system, IIA component   YP   185608.1   2.568224299   1725   A07   S35   SACOL1759   universal stress protein family   YP   186508.1   2.2173831776   1727   A08   S35   SACOL1812   repressor of toxins   YP   186508.1   2.2173831776   1729   A09   S35   SACOL1952   ferritins family protein   YP   186777.1   3.145794393   1731   A10   S35   SACOL2222   ribosomal protein S5   YP   187032.1   3.154101869   1734   A11   S35   SACOL2285   staphyloxanthin biosynthesis protein, putative   YP   187102.1   3.145794393   1737   A12   S35   SACOL384   acetyltransferase, GNAT family   YP   187471.1   3.16635614   3.147418   B02   S38   SACOL1834   acetyltransferase, GNAT family   YP   185329.1   3.863197026   1744   B02   S38   SACOL1255   S87RNA processing protein TIGR00040   YP   186026.1   3.563197026   1744   B05   S41   SACOL0669   Gonserved hypothetical protein   TIGR00040   YP   186026.1   3.563197026   1749   B06   S41   SACOL0669   Conserved hypothetical protein   YP   18553.1   3.34519533   1753   B08   S41   SACOL1539   conserved hypothetical protein   YP   18553.1   3.34797307   1759   B10   S41   SACOL0669   conserved hypothetical protein   YP   185363.1   3.34797307   1759   B10   S41   SACOL0669   conserved hypothetical protein   YP   185361.1   3.147074307   1759   B10   S41   SACOL1539   conserved hypothetical protein   YP   185081.1   3.147074307   1759   B10   S41   SACOL1539   conserved hypothetical protein   YP   185081.1   3.147074307   1759   B10   S41   SACOL0669   conserved hypothetical protein   YP   185081.1   3.14220588   1763   B08   S41   SACOL0669   conserved hypothetical protein   YP   185091.1   3.14220583					-		
1707   A03   535   SACOL0286   Conserved hypothetical protein   YP   185181.1   3.145794393     1719   A04   535   SACOL0885   ribosomal protein   L10   YP   185647.1   3.1495327.1     1721   A05   535   SACOL0789   GTP cyclohydrolase I family protein   YP   185682.1   2.730841122     1723   A06   535   SACOL1457   FTS system, IIA component   YP   185682.1   2.730841122     1725   A07   535   SACOL1457   FTS system, IIA component   YP   185682.1   2.730841122     1726   A07   535   SACOL1812   repressor of toxins   YP   1866845.1   2     1727   A08   535   SACOL1812   repressor of toxins   YP   1866845.1   2     1729   A09   535   SACOL1952   ferritins family protein   YP   1866845.1   2     1731   A10   535   SACOL2222   Staphyloxanthin biosynthesis protein, putative   A1734   A11   535   SACOL2229   Staphyloxanthin biosynthesis protein, putative   A1734   A11   535   SACOL2229   Staphyloxanthin biosynthesis protein, putative   A1734   A12   535   SACOL0488   acetyltransferase, GNAT family   YP   187012.1   3.16638514     1731   A12   A12   A12   A12   A13   A14   A1							
1719							
1721							
1723         A06         535         SACOL1457         PTS system, IIA component         YP 186308.1         2.588224299           1727         A07         535         SACOL1759         universal stress protein family         YP 186593.1         2.173831776           1727         A08         535         SACOL1812         repressor of toxins         YP 186702.1         3.151401892           1734         A10         535         SACOL2295         ferritins family protein         YP 187032.1         3.151401869           1734         A11         535         SACOL2295         staphyloxanthin biosynthesis protein, putative         YP 18702.1         3.151401869           1737         A12         535         SACOL284         acetyltransferase, GNAT family         YP 18702.1         3.1653514           1740         B01         538         SACOL1438         single-stranded DNA-binding protein         YP 186026.1         3.563197026           1741         B02         538         SACOL1631         conserved hypothetical protein RimM         YP 186026.1         3.363197026           1744         B05         541         SACOL0037         conserved hypothetical protein         YP 186174.1         3.353197226           1749         B06         541         SACOL0699							
1725							
1727   A08   535   SACOL1812   repressor of toxins   YP   186645.1   2	1723	A06	535	SACOL1457	PTS system, IIA component	YP_186308.1	2.568224299
1729					universal stress protein family		2.173831776
1731   A10   535   SACOL2222   ribosomal protein S5   YP   187032.1   3.151401869   1734   A11   535   SACOL295   staphyloxanthin biosynthesis protein, putative   YP   187102.1   3.145794393   1737   A12   535   SACOL2984   acetyltransferase, GNAT family   YP   187471.1   3.16635514   1740   B01   538   SACOL388   single-stranded DNA-binding protein   YP   185329.1   3.851301115   1741   B02   538   SACOL1163   conserved hypothetical protein   TIGR00040   YP   186026.1   3.563197026   1743   B03   538   SACOL11655   16S rRNA processing protein RimM   YP   186114.1   3.146840149   1746   B04   538   SACOL1891   RNAIll-activating protein   TRAP   YP   186717.1   3.537174721   1747   B05   541   SACOL0037   conserved hypothetical protein   YP   184948.1   4.303142329   1749   B06   541   SACOL0669   conserved hypothetical protein   YP   185533.1   3.534195933   1753   B08   541   SACOL1167   hypothetical protein   YP   186303.1   2.580277264   1755   B09   541   SACOL1539   conserved hypothetical protein   YP   186303.1   3.54374307   1759   B10   541   SACOL2318   conserved hypothetical protein   YP   186381.1   3.147874307   1759   B10   541   SACOL1399   conserved hypothetical protein   YP   187125.1   4.329020333   1763   B12   544   SACOL137   alkaline shock protein 23   YP   186986.1   3.476220588   17665   C01   544   SACOL2173   alkaline shock protein 23   YP   186984.1   3.47164706   1771   C03   547   SACOL2723   conserved hypothetical protein   YP   185057.1   3.548446069   1771   C03   547   SACOL293   conserved hypothetical protein   YP   185057.1   4.294332724   1775   C05   S50   SACOL2162   conserved hypothetical protein   YP   186798.1   4.294332724   1775   C05   S50   SACOL2162   conserved hypothetical protein   YP   186996.1   2.152727273   1779   C07   S50   SACOL266   acetyltransferase, GNAT family   YP   18577.1   4.248201439   1793   C01   S53   SACOL669   conserved hypothetical protein   YP   186793.1   4.323689699   1793   C01   S56   SACOL266   conserved hypothetical protein   YP   185	1727	A08	535		repressor of toxins	YP_186645.1	
1734         A11         535         SACOL295         staphyloxanthin biosynthesis protein, putative         YP 187102.1         3.145794393           1737         A12         535         SACOL2684         acetyltransferase, GNAT family         YP 187471.1         3.16635514           1740         B01         538         SACOL0438         single-stranded DNA-binding protein         YP 186329.1         3.851301115           1741         B02         538         SACOL1255         16S rRNA processing protein RimM         YP 186026.1         3.563197026           1743         B03         538         SACOL1891         RNAIII-activating protein TRAP         YP 186717.1         3.537174721           1746         B04         538         SACOL0037         conserved hypothetical protein         YP 18677.1         3.537174721           1747         B05         541         SACOL0037         conserved hypothetical protein         YP 186553.1         3.534195933           1753         B08         541         SACOL1539         conserved hypothetical protein         YP 18639.1         2.850277264           1755         B09         541         SACOL1539         conserved hypothetical protein         YP 18639.1         3.147874307           1759         B01         541         <	1729	A09	535		ferritins family protein		3.145794393
1737	1731	A10	535	SACOL2222	ribosomal protein S5	YP_187032.1	3.151401869
1740   B01   538   SACOL0438   single-stranded DNA-binding protein   YP   185329.1   3.851301115     1741   B02   538   SACOL1163   conserved hypothetical protein TIGR00040   YP   186026.1   3.563197026     1743   B03   538   SACOL1255   165 rRNA processing protein RIMM   YP   186114.1   3.146840149     1746   B04   538   SACOL1891   RNAIII-activating protein TRAP   YP   186717.1   3.537174721     1747   B05   541   SACOL0037   conserved hypothetical protein   YP   186741.1   3.537194721     1748   B06   541   SACOL0669   conserved hypothetical protein   YP   185553.1   3.534195933     1753   B08   541   SACOL1667   hypothetical protein   YP   186381.1   3.534195933     1755   B09   541   SACOL1539   conserved hypothetical protein   YP   186381.1   3.147874307     1759   B10   541   SACOL2318   conserved hypothetical protein   YP   186381.1   3.147874307     1759   B10   541   SACOL318   conserved hypothetical protein   YP   185881.1   3.147874307     1761   B11   544   SACOL1397   peptide methionine sulfoxide reductase   YP   186249.1   3.876838235     1763   B12   544   SACOL1397   peptide methionine sulfoxide reductase   YP   186984.1   2.411764706     1769   C02   547   SACOL273   alkaline shock protein   ZP   18509.1   3.534484069     1771   C03   547   SACOL2723   conserved hypothetical protein   YP   18509.1   2.425454545     1775   C05   550   SACOL1983   ThiJ/Pfp1 family protein   YP   186758.1   2.421818182     1777   C06   550   SACOL2162   conserved hypothetical protein   YP   186797.1   3.37272773     1781   C08   550   SACOL2162   conserved hypothetical protein   YP   186797.1   3.37272773     1781   C08   550   SACOL2162   conserved hypothetical protein   YP   186797.1   3.138181818     1783   C09   550   SACOL266   acetyltransferase, GNAT family   YP   187797.1   3.14   3.138181818     1783   C09   550   SACOL269   conserved hypothetical protein   YP   185703.1   4.323688969     1791   C12   556   SACOL0659   conserved hypothetical protein   YP   185703.1   4.323688969     1791   C12   556   S	1734	A11	535	SACOL2295	staphyloxanthin biosynthesis protein, putative	YP_187102.1	3.145794393
1741   B02   538   SACOL1163   Conserved hypothetical protein TIGR00040   YP   186026.1   3.563197026   168 rRNA processing protein RimM   YP   186114.1   3.146840149   1746   B04   538   SACOL1255   168 rRNA processing protein RimM   YP   186711.1   3.531717421   1747   B05   541   SACOL037   Conserved hypothetical protein   YP   186711.1   3.531717421   1747   B05   541   SACOL037   Conserved hypothetical protein   YP   184948.1   4.303142329   1749   B06   541   SACOL0669   Conserved hypothetical protein   YP   185933.1   3.54195933   1753   B08   541   SACOL167   hypothetical protein   YP   186030.1   2.850277264   1755   B09   541   SACOL1539   Conserved hypothetical protein   YP   186381.1   3.147874307   1759   B10   541   SACOL1539   Conserved hypothetical protein   YP   187125.1   4.329020333   1761   B11   544   SACOL1020   Conserved hypothetical protein   YP   185886.1   3.145220588   1763   B12   544   SACOL1397   peptide methionine sulfoxide reductase   YP   186849.1   3.876838235   1765   CO1   544   SACOL1397   peptide methionine sulfoxide reductase   YP   186941   3.876838235   1769   CO2   547   SACOL057   Conserved hypothetical protein   YP   185957.1   3.548446069   1771   CO3   547   SACOL057   Conserved hypothetical protein   YP   185957.1   3.548446069   1771   CO3   547   SACOL1723   Conserved hypothetical protein   YP   185951.1   2.425454545   1775   CO5   550   SACOL1933   ThiJ/Pfpl family protein   YP   186974.1   3.142727273   1781   CO8   550   SACOL1835   galactose-6-phosphate isomerase, LacB subunit   YP   186975.1   2.401818182   1777   CO6   550   SACOL2366   acetyltransferase, GNAT family   YP   187171.1   3.138181818   1783   CO9   550   SACOL2366   Conserved hypothetical protein   YP   186703.1   4.323688969   1791   C12   556   SACOL0659   Conserved hypothetical protein   YP   186703.1   4.323688969   1791   C12   556   SACOL0659   Conserved hypothetical protein   YP   186703.1   4.323688969   1791   C12   556   SACOL0659   Conserved hypothetical protein   YP   186703.1	1737	A12	535	SACOL2684	acetyltransferase, GNAT family	YP_187471.1	3.16635514
1741   B02   538   SACOL1163   Conserved hypothetical protein TIGR00040   YP   186026.1   3.563197026   165 rRNA processing protein RNA   YP   186114.1   3.146840149   1746   B04   538   SACOL1255   RNAIII-activating protein TRAP   YP   186717.1   3.537174721   1747   B05   541   SACOL037   Conserved hypothetical protein   YP   186717.1   3.537174721   1747   B05   541   SACOL0669   Conserved hypothetical protein   YP   186931.1   3.534195933   1753   B08   541   SACOL1669   Conserved hypothetical protein   YP   186030.1   2.850277264   1755   B09   541   SACOL1539   Conserved hypothetical protein   YP   186381.1   3.147874307   1759   B10   541   SACOL1339   Conserved hypothetical protein   YP   185836.1   3.147874307   1759   B10   541   SACOL1302   Conserved hypothetical protein   YP   185886.1   3.145220588   1763   B12   544   SACOL1397   peptide methionine sulfoxide reductase   YP   186840.1   3.376838235   1765   CO1   544   SACOL1397   peptide methionine sulfoxide reductase   YP   18694.1   2.411764706   1769   CO2   547   SACOL057   Conserved hypothetical protein   YP   185957.1   3.548446069   1771   CO3   547   SACOL057   Conserved hypothetical protein   YP   185957.1   3.548446069   1771   CO3   547   SACOL1933   Conserved hypothetical protein   YP   185957.1   3.548446069   1775   CO5   550   SACOL1933   ThiJ/Pfpl family protein   YP   186974.1   2.4294332724   1775   CO6   550   SACOL1933   ThiJ/Pfpl family protein   YP   186974.1   3.13818181   1783   CO9   550   SACOL2366   Conserved hypothetical protein   YP   186975.1   2.401818182   1776   CO5   SSS   SACOL2366   Conserved hypothetical protein   YP   186975.1   3.13818181   1783   CO9   550   SACOL2366   Conserved hypothetical protein   YP   186975.1   3.13818181   1783   CO9   550   SACOL266   Conserved hypothetical protein   YP   186703.1   4.323688969   1791   C12   556   SACOL266   Conserved hypothetical protein   YP   186703.1   4.323688969   1791   C12   556   SACOL266   Conserved hypothetical protein   YP   186703.1   4.323688969   1	1740	B01	538	SACOL0438	single-stranded DNA-binding protein	YP 185329.1	3.851301115
1746         B04         538         SACOL1891         RNAIII-activating protein TRAP         YP_186717.1         3.537174721           1747         B05         541         SACOL0669         conserved hypothetical protein         YP_18555.1         3.534195933           1753         B08         541         SACOL1669         conserved hypothetical protein         YP 186030.1         2.850277264           1755         B09         541         SACOL1539         conserved hypothetical protein         YP 186381.1         3.147874307           1759         B10         541         SACOL2188         conserved hypothetical protein         YP 186381.1         3.147874307           1761         B11         544         SACOL218         conserved hypothetical protein         YP 186281.1         4.329020333           1761         B11         544         SACOL1397         peptide methionine sulfoxide reductase         YP 186249.1         3.876838235           1765         C01         544         SACOL2173         alkaline shock protein 23         YP 186984.1         2.411764706           1769         C02         547         SACOL2173         conserved hypothetical protein         YP 185057.1         3.548446069           1771         C03         547         SACOL2236 <td>1741</td> <td>B02</td> <td>538</td> <td>SACOL1163</td> <td></td> <td>YP 186026.1</td> <td>3.563197026</td>	1741	B02	538	SACOL1163		YP 186026.1	3.563197026
1746   B04   538   SACOL1891   RNAIII-activating protein TRAP   YP   186717.1   3.537174721   1747   B05   541   SACOL0669   conserved hypothetical protein   YP   184948.1   4.303142329   1753   B08   541   SACOL1669   conserved hypothetical protein   YP   185553.1   3.534195933   1753   B08   541   SACOL167   hypothetical protein   YP   186381.1   3.147874307   1755   B09   541   SACOL1539   conserved hypothetical protein   YP   186381.1   3.147874307   1759   B10   541   SACOL2318   conserved hypothetical protein   YP   187125.1   4.329020333   1761   B11   544   SACOL138   conserved hypothetical protein   YP   187125.1   4.329020333   1763   B12   544   SACOL1397   peptide methionine sulfoxide reductase   YP   186249.1   3.876838235   1765   C01   544   SACOL1397   peptide methionine sulfoxide reductase   YP   186249.1   3.876838235   1765   C01   544   SACOL173   alkaline shock protein   XP   185057.1   3.548446069   1771   C03   547   SACOL273   conserved hypothetical protein   YP   185057.1   3.548446069   1771   C03   547   SACOL2723   conserved hypothetical protein   YP   185097.1   3.548446069   1773   C04   550   SACOL1933   ThiJ/Pfp1 family protein   YP   185799.1   4.294332724   1775   C05   550   SACOL1933   ThiJ/Pfp1 family protein   YP   186758.1   2.41818182   1777   C06   550   SACOL2162   conserved hypothetical protein   YP   186758.1   2.41818182   1783   C09   550   SACOL2185   galactose-6-phosphate isomerase, LacB subunit   YP   186974.1   3.138181818   1783   C09   550   SACOL236   conserved hypothetical protein   YP   18676.1   4.305605787   1789   C11   553   SACOL0802   conserved hypothetical protein   YP   18676.1   4.305605787   1789   C11   553   SACOL0802   conserved hypothetical protein   YP   186703.1   4.248201439   1793   D01   556   SACOL1856   conserved hypothetical protein   YP   186703.1   4.288201439   1793   D01   556   SACOL0804   hypothetical protein   YP   186703.1   4.288201439   1796   D02   556   SACOL0804   hypothetical protein   YP   186933.1   2.838129496   1800	1743	B03	538	SACOL1255	16S rRNA processing protein RimM	YP 186114.1	3.146840149
1747   B05	1746	B04	538	SACOL1891		YP 186717.1	3.537174721
1749         B06         541         SACOL0669         conserved hypothetical protein         YP         185553.1         3.534195933           1753         B08         541         SACOL1167         hypothetical protein         YP         186030.1         2.850277264           1755         B09         541         SACOL1539         conserved hypothetical protein         YP         186381.1         3.147874307           1759         B10         541         SACOL1202         conserved hypothetical protein         YP         186381.1         3.147874307           1761         B11         544         SACOL1397         peptide methionine sulfoxide reductase         YP         186249.1         3.145220588           1765         C01         544         SACOL1397         peptide methionine sulfoxide reductase         YP         186249.1         3.876838235           1765         C01         544         SACOL1373         alkaline shock protein         YP         186941.1         2.411764706           1769         C02         547         SACOL173         conserved hypothetical protein         YP         185057.1         3.548446069           1771         C03         547         SACOL12723         conserved hypothetical protein         YP         18		B05	541				
1753   B08   541   SACOL1167   hypothetical protein   YP   186030.1   2.850277264   1755   B09   541   SACOL1539   conserved hypothetical protein   YP   186381.1   3.147874307   1759   B10   541   SACOL2318   conserved hypothetical protein   YP   185381.1   3.147874307   1759   B10   541   SACOL2318   conserved hypothetical protein   YP   185386.1   3.145220588   1763   B11   544   SACOL1020   conserved hypothetical protein   YP   185886.1   3.145220588   1763   B12   544   SACOL1397   peptide methionine sulfoxide reductase   YP   186249.1   3.876838235   1765   C01   544   SACOL2173   alkaline shock protein   23   YP   186984.1   2.411764706   1769   C02   547   SACOL2723   conserved hypothetical protein   YP   185057.1   3.548446069   1771   C03   547   SACOL2723   conserved hypothetical protein   YP   187509.1   4.294332724   1773   C04   550   SACOL1933   ThiJ/Pfpl family protein   YP   1869758.1   2.425454545   1775   C05   550   SACOL1933   ThiJ/Pfpl family protein   YP   1869758.1   2.401818182   1777   C06   550   SACOL2162   conserved hypothetical protein   YP   186976.1   3.872727273   1781   C08   550   SACOL2185   galactose-6-phosphate isomerase, LacB subunit   YP   187171.1   3.138181818   1783   C09   550   SACOL2366   acetyltransferase, GNAT family   YP   187171.1   3.138181818   1783   C09   550   SACOL2711   conserved hypothetical protein   YP   187797.1   3.14   1785   C10   553   SACOL0802   conserved hypothetical protein   YP   185676.1   4.305605787   1789   C11   553   SACOL0802   conserved hypothetical protein   YP   185727.1   4.248201439   1793   D01   556   SACOL2565   conserved hypothetical protein   YP   185727.1   4.248201439   1796   D02   556   SACOL152   colicin V production protein, putative   YP   186933.1   2.838129496   1801   D05   556   SACOL2562   methylated-DNAprotein-cysteine   YP   186933.1   2.838129496   1804   D06   559   SACOL0579   conserved hypothetical protein   YP   185467.1   3.148479428   1805   D07   559   SACOL0688   signal peptidase   A, inactive   YP			541				
1755   B09							
1759         B10         541         SACOL2318         conserved hypothetical protein         YP 187125.1         4.329020333           1761         B11         544         SACOL1020         conserved hypothetical protein         YP 185886.1         3.145220588           1763         B12         544         SACOL1397         peptide methionine sulfoxide reductase         YP 186984.1         2.411764706           1765         C01         544         SACOL2173         alkaline shock protein 23         YP 186984.1         2.411764706           1769         C02         547         SACOL0157         conserved hypothetical protein         YP 185057.1         3.548446069           1771         C03         547         SACOL2723         conserved hypothetical protein         YP 185057.1         3.548446069           1771         C03         547         SACOL1933         conserved hypothetical protein         YP 185759.1         4.294332724           1773         C04         550         SACOL1933         ThiJ/Pfpl family protein         YP 186758.1         2.425454545           1777         C06         550         SACOL2162         conserved hypothetical protein         YP 186978.1         3.872727273           1779         C07         550         SACOL2185							
1761         B11         544         SACOL1020         conserved hypothetical protein         YP 185886.1         3.145220588           1763         B12         544         SACOL1397         peptide methionine sulfoxide reductase         YP 186249.1         3.876838235           1765         CO1         544         SACOL2173         alkaline shock protein         YP 186984.1         2.411764706           1769         CO2         547         SACOL0157         conserved hypothetical protein         YP 185057.1         3.548446069           1771         CO3         547         SACOL2723         conserved hypothetical protein         YP 187509.1         4.294332724           1773         CO4         550         SACOL1933         ThiJ/Pfpl family protein         YP 186758.1         2.425454545           1775         CO5         550         SACOL2162         conserved hypothetical protein         YP 186974.1         3.872727273           1779         CO7         550         SACOL2162         conserved hypothetical protein         YP 186996.1         2.152727273           1781         CO8         550         SACOL2185         galactose-6-phosphate isomerase, LacB subunit         YP 186996.1         2.152727273           1781         CO8         550         SACOL2							
1763         B12         544         SACOL1397         peptide methionine sulfoxide reductase         YP 186249.1         3.876838235           1765         C01         544         SACOL2173         alkaline shock protein 23         YP 186984.1         2.411764706           1769         C02         547         SACOL157         conserved hypothetical protein         YP 185057.1         3.548446069           1771         C03         547         SACOL2723         conserved hypothetical protein         YP 187509.1         4.294332724           1773         C04         550         SACOL1933         ThiJ/Pfpl family protein         YP 186758.1         2.425454545           1775         C05         550         SACOL2162         conserved hypothetical protein         YP 186794.1         3.872727273           1779         C07         550         SACOL2185         galactose-6-phosphate isomerase, LacB subunit         YP 186996.1         2.152727273           1781         C08         550         SACOL2366         acetyltransferase, GNAT family         YP 187171.1         3.138181818           1783         C09         550         SACOL2366         acetyltransferase, GNAT family         YP 186703.1         4.305605787           1789         C11         553         SACO							
1765         C01         544         SACOL2173         alkaline shock protein 23         YP_186984.1         2.411764706           1769         C02         547         SACOL0157         conserved hypothetical protein         YP_185057.1         3.548446069           1771         C03         547         SACOL2723         conserved hypothetical protein         YP_187509.1         4.294332724           1773         C04         550         SACOL1984         conserved hypothetical protein TIGR00481         YP_185852.1         2.425454545           1775         C05         550         SACOL1933         ThiJ/Pfpl family protein         YP_186758.1         2.401818182           1777         C06         550         SACOL2162         conserved hypothetical protein         YP_186974.1         3.87272723           1779         C07         550         SACOL2185         galactose-6-phosphate isomerase, LacB subunit         YP_186974.1         3.187272723           1781         C08         550         SACOL2366         acetyltransferase, GNAT family         YP_187471.1         3.138181818           1783         C09         550         SACOL2366         acetyltransferase, GNAT family         YP_187497.1         3.14           1785         C10         553         SACOL1871							
1769         C02         547         SACOL0157         conserved hypothetical protein         YP_185057.1         3.548446069           1771         C03         547         SACOL2723         conserved hypothetical protein         YP_187509.1         4.294332724           1773         C04         550         SACOL0984         conserved hypothetical protein         YP_185852.1         2.42545454545454545           1775         C05         550         SACOL1933         ThiJ/Pfpl family protein         YP_186978.1         2.425454545           1777         C06         550         SACOL2162         conserved hypothetical protein         YP_186974.1         3.872727273           1779         C07         550         SACOL2185         galactose-6-phosphate isomerase, LacB subunit         YP_186996.1         2.152727273           1781         C08         550         SACOL2366         acetyltransferase, GNAT family         YP_187497.1         3.14           1783         C09         550         SACOL2711         conserved hypothetical protein         YP_187497.1         3.14           1785         C10         553         SACOL1875         epidermin biosynthesis protein EpiD         YP_18676.1         4.305605787           1789         C11         553         SACOL187							
1771         C03         547         SACOL2723         conserved hypothetical protein         YP_187509.1         4.294332724           1773         C04         550         SACOL0984         conserved hypothetical protein TIGR00481         YP_185852.1         2.425454545           1775         C05         550         SACOL1933         ThiJ/Pfpl family protein         YP_186758.1         2.401818182           1777         C06         550         SACOL2162         conserved hypothetical protein         YP_186974.1         3.872727273           1779         C07         550         SACOL2185         galactose-6-phosphate isomerase, LacB subunit         YP_186996.1         2.152727273           1781         C08         550         SACOL2366         acetyltransferase, GNAT family         YP_18717.1         3.138181818           1783         C09         550         SACOL2711         conserved hypothetical protein         YP_187497.1         3.14           1785         C10         553         SACOL0802         conserved hypothetical protein         YP_18676.1         4.305605787           1789         C11         553         SACOL1875         epidermin biosynthesis protein EpiD         YP_186703.1         4.232688969           1791         C12         556							
1773         C04         550         SACOL0984         conserved hypothetical protein TIGR00481         YP 185852.1         2.425454545           1775         C05         550         SACOL1933         ThiJ/Pfpl family protein         YP 186758.1         2.401818182           1777         C06         550         SACOL2162         conserved hypothetical protein         YP 186974.1         3.872727273           1779         C07         550         SACOL2185         galactose-6-phosphate isomerase, LacB subunit         YP 186996.1         2.152727273           1781         C08         550         SACOL2366         acetyltransferase, GNAT family         YP 187171.1         3.138181818           1783         C09         550         SACOL2711         conserved hypothetical protein         YP 187497.1         3.14           1785         C10         553         SACOL0802         conserved hypothetical protein         YP 185676.1         4.305605787           1789         C11         553         SACOL1875         epidermin biosynthesis protein EpiD         YP 186703.1         4.323688969           1791         C12         556         SACOL0854         hypothetical protein         YP 185727.1         4.248201439           1793         D01         556         SACOL155							
1775         C05         550         SACOL1933         ThiJ/PfpI family protein         YP_186758.1         2.401818182           1777         C06         550         SACOL2162         conserved hypothetical protein         YP_186974.1         3.872727273           1779         C07         550         SACOL2185         galactose-6-phosphate isomerase, LacB subunit         YP_186996.1         2.152727273           1781         C08         550         SACOL2366         acetyltransferase, GNAT family         YP_187497.1         3.138181818           1783         C09         550         SACOL2711         conserved hypothetical protein         YP_187497.1         3.14           1785         C10         553         SACOL0802         conserved hypothetical protein         YP_185676.1         4.305605787           1789         C11         553         SACOL1875         epidermin biosynthesis protein EpiD         YP_186703.1         4.323688969           1791         C12         556         SACOL0659         conserved hypothetical protein         YP_185743.1         3.014388489           1793         D01         556         SACOL0854         hypothetical protein         YP_185727.1         4.248201439           1796         D02         556         SACOL152							
1777         C06         550         SACOL2162         conserved hypothetical protein         YP_186974.1         3.872727273           1779         C07         550         SACOL2185         galactose-6-phosphate isomerase, LacB subunit         YP_186996.1         2.152727273           1781         C08         550         SACOL2366         acetyltransferase, GNAT family         YP_187171.1         3.138181818           1783         C09         550         SACOL2711         conserved hypothetical protein         YP_187497.1         3.14           1785         C10         553         SACOL0802         conserved hypothetical protein         YP_185676.1         4.305605787           1789         C11         553         SACOL1875         epidermin biosynthesis protein EpiD         YP_186703.1         4.323688969           1791         C12         556         SACOL0659         conserved hypothetical protein         YP_185543.1         3.014388489           1793         D01         556         SACOL0854         hypothetical protein         YP_185727.1         4.248201439           1796         D02         556         SACOL1152         colicin V production protein, putative         YP_186015.1         3.115107914           1797         D03         556         SACO							
1779         C07         550         SACOL2185         galactose-6-phosphate isomerase, LacB subunit         YP_186996.1         2.152727273           1781         C08         550         SACOL2366         acetyltransferase, GNAT family         YP_187171.1         3.138181818           1783         C09         550         SACOL2711         conserved hypothetical protein         YP_187497.1         3.14           1785         C10         553         SACOL0802         conserved hypothetical protein         YP_185676.1         4.305605787           1789         C11         553         SACOL1875         epidermin biosynthesis protein EpiD         YP_186703.1         4.323688969           1791         C12         556         SACOL0659         conserved hypothetical protein         YP_185543.1         3.014388489           1793         D01         556         SACOL0854         hypothetical protein         YP_185727.1         4.248201439           1796         D02         556         SACOL152         colicin V production protein, putative         YP_186015.1         3.115107914           1797         D03         556         SACOL299         ATP synthase F0, B subunit         YP_186931.1         4.275179856           1800         D04         556         SACOL2562<							
1781         C08         550         SACOL2366         acetyltransferase, GNAT family         YP_187171.1         3.138181818           1783         C09         550         SACOL2711         conserved hypothetical protein         YP_187497.1         3.14           1785         C10         553         SACOL0802         conserved hypothetical protein         YP_185676.1         4.305605787           1789         C11         553         SACOL1875         epidermin biosynthesis protein EpiD         YP_186703.1         4.323688969           1791         C12         556         SACOL0659         conserved hypothetical protein         YP_185543.1         3.014388489           1793         D01         556         SACOL0854         hypothetical protein         YP_185727.1         4.248201439           1796         D02         556         SACOL1152         colicin V production protein, putative         YP_186015.1         3.115107914           1797         D03         556         SACOL2099         ATP synthase F0, B subunit         YP_186933.1         2.838129496           1801         D05         556         SACOL2562         methylated-DNAprotein-cysteine methyltransferase         YP_187354.1         3.570143885           1804         D06         559         SAC							
1783         C09         550         SACOL2711         conserved hypothetical protein         YP_187497.1         3.14           1785         C10         553         SACOL0802         conserved hypothetical protein         YP_185676.1         4.305605787           1789         C11         553         SACOL1875         epidermin biosynthesis protein EpiD         YP_186703.1         4.323688969           1791         C12         556         SACOL0659         conserved hypothetical protein         YP_185543.1         3.014388489           1793         D01         556         SACOL0854         hypothetical protein         YP_185727.1         4.248201439           1796         D02         556         SACOL1152         colicin V production protein, putative         YP_186015.1         3.115107914           1797         D03         556         SACOL2099         ATP synthase F0, B subunit         YP_186914.1         4.275179856           1800         D04         556         SACOL2118         conserved hypothetical protein         YP_186933.1         2.838129496           1801         D05         556         SACOL2562         methylated-DNAprotein-cysteine methyltransferase         YP_187354.1         3.570143885           1804         D06         559         SAC							
1785         C10         553         SACOL0802         conserved hypothetical protein         YP 185676.1         4.305605787           1789         C11         553         SACOL1875         epidermin biosynthesis protein EpiD         YP 186703.1         4.323688969           1791         C12         556         SACOL0659         conserved hypothetical protein         YP 185543.1         3.014388489           1793         D01         556         SACOL0854         hypothetical protein         YP 185727.1         4.248201439           1796         D02         556         SACOL1152         colicin V production protein, putative         YP 186015.1         3.115107914           1797         D03         556         SACOL2099         ATP synthase F0, B subunit         YP 186933.1         4.275179856           1800         D04         556         SACOL2118         conserved hypothetical protein         YP 186933.1         2.838129496           1801         D05         556         SACOL2562         methylated-DNAprotein-cysteine methyltransferase         YP 187354.1         3.570143885           1804         D06         559         SACOL0519         acetyltransferase, GNAT family         YP 185407.1         3.148479428           1805         D07         559							
1789         C11         553         SACOL1875         epidermin biosynthesis protein EpiD         YP_186703.1         4.323688969           1791         C12         556         SACOL0659         conserved hypothetical protein         YP_185543.1         3.014388489           1793         D01         556         SACOL0854         hypothetical protein         YP_185727.1         4.248201439           1796         D02         556         SACOL1152         colicin V production protein, putative         YP_186015.1         3.115107914           1797         D03         556         SACOL2099         ATP synthase F0, B subunit         YP_186914.1         4.275179856           1800         D04         556         SACOL2118         conserved hypothetical protein         YP_186933.1         2.838129496           1801         D05         556         SACOL2562         methylated-DNAprotein-cysteine methyltransferase         YP_187354.1         3.570143885           1804         D06         559         SACOL0519         acetyltransferase, GNAT family         YP_185465.1         4.254025045           1807         D08         559         SACOL0968         signal peptidase IA, inactive         YP_186436.1         3.846153846           1809         D09         559         <							
1791         C12         556         SACOL0659         conserved hypothetical protein         YP_185543.1         3.014388489           1793         D01         556         SACOL0854         hypothetical protein         YP_185727.1         4.248201439           1796         D02         556         SACOL1152         colicin V production protein, putative         YP_186015.1         3.115107914           1797         D03         556         SACOL2099         ATP synthase F0, B subunit         YP_186914.1         4.275179856           1800         D04         556         SACOL2118         conserved hypothetical protein         YP_186933.1         2.838129496           1801         D05         556         SACOL2562         methylated-DNAprotein-cysteine methyltransferase         YP_187354.1         3.570143885           1804         D06         559         SACOL0519         acetyltransferase, GNAT family         YP_185407.1         3.148479428           1805         D07         559         SACOL0579         conserved hypothetical protein         YP_185465.1         4.254025045           1807         D08         559         SACOL0968         signal peptidase IA, inactive         YP_186436.1         3.846153846							
1793         D01         556         SACOL0854         hypothetical protein         YP 185727.1         4.248201439           1796         D02         556         SACOL1152         colicin V production protein, putative         YP 186015.1         3.115107914           1797         D03         556         SACOL2099         ATP synthase F0, B subunit         YP 186914.1         4.275179856           1800         D04         556         SACOL2118         conserved hypothetical protein         YP 186933.1         2.838129496           1801         D05         556         SACOL2562         methylated-DNAprotein-cysteine methyltransferase         YP 187354.1         3.570143885           1804         D06         559         SACOL0519         acetyltransferase, GNAT family         YP 185407.1         3.148479428           1805         D07         559         SACOL0579         conserved hypothetical protein         YP 185465.1         4.254025045           1807         D08         559         SACOL0968         signal peptidase IA, inactive         YP 186436.1         3.846153846							
1796         D02         556         SACOL1152         colicin V production protein, putative         YP_186015.1         3.115107914           1797         D03         556         SACOL2099         ATP synthase F0, B subunit         YP_186914.1         4.275179856           1800         D04         556         SACOL2118         conserved hypothetical protein         YP_186933.1         2.838129496           1801         D05         556         SACOL2562         methylated-DNAprotein-cysteine methyltransferase         YP_187354.1         3.570143885           1804         D06         559         SACOL0519         acetyltransferase, GNAT family         YP_185407.1         3.148479428           1805         D07         559         SACOL0579         conserved hypothetical protein         YP_185465.1         4.254025045           1807         D08         559         SACOL0968         signal peptidase IA, inactive         YP_186436.1         3.846153846           1809         D09         559         SACOL1596         shikimate kinase         YP_186436.1         3.846153846							
1797         D03         556         SACOL2099         ATP synthase F0, B subunit         YP 186914.1         4.275179856           1800         D04         556         SACOL2118         conserved hypothetical protein         YP 186933.1         2.838129496           1801         D05         556         SACOL2562         methylated-DNAprotein-cysteine methyltransferase         YP 187354.1         3.570143885           1804         D06         559         SACOL0519         acetyltransferase, GNAT family         YP 185407.1         3.148479428           1805         D07         559         SACOL0579         conserved hypothetical protein         YP 185465.1         4.254025045           1807         D08         559         SACOL0968         signal peptidase IA, inactive         YP 186436.1         3.846153846           1809         D09         559         SACOL1596         shikimate kinase         YP 186436.1         3.846153846							
1800         D04         556         SACOL2118         conserved hypothetical protein         YP_186933.1         2.838129496           1801         D05         556         SACOL2562         methylated-DNAprotein-cysteine methyltransferase         YP_187354.1         3.570143885           1804         D06         559         SACOL0519         acetyltransferase, GNAT family         YP_185407.1         3.148479428           1805         D07         559         SACOL0579         conserved hypothetical protein         YP_185465.1         4.254025045           1807         D08         559         SACOL0968         signal peptidase IA, inactive         YP_185837.1         4.300536673           1809         D09         559         SACOL1596         shikimate kinase         YP_186436.1         3.846153846							
1801         D05         556         SACOL2562         methylated-DNAprotein-cysteine methyltransferase         YP_187354.1         3.570143885           1804         D06         559         SACOL0519         acetyltransferase, GNAT family         YP_185407.1         3.148479428           1805         D07         559         SACOL0579         conserved hypothetical protein         YP_185465.1         4.254025045           1807         D08         559         SACOL0968         signal peptidase IA, inactive         YP_185837.1         4.300536673           1809         D09         559         SACOL1596         shikimate kinase         YP_186436.1         3.846153846							
1801         D03         SACOL2502         methyltransferase         TP_187394.1         3.370143883           1804         D06         559         SACOL0519         acetyltransferase, GNAT family         YP_185407.1         3.148479428           1805         D07         559         SACOL0579         conserved hypothetical protein         YP_185465.1         4.254025045           1807         D08         559         SACOL0968         signal peptidase IA, inactive         YP_185837.1         4.300536673           1809         D09         559         SACOL1596         shikimate kinase         YP_186436.1         3.846153846							
1804         D06         559         SACOL0519         acetyltransferase, GNAT family         YP_185407.1         3.148479428           1805         D07         559         SACOL0579         conserved hypothetical protein         YP_185465.1         4.254025045           1807         D08         559         SACOL0968         signal peptidase IA, inactive         YP_185837.1         4.300536673           1809         D09         559         SACOL1596         shikimate kinase         YP_186436.1         3.846153846	1801	D05	556	SACOL2562		YP_187354.1	3.570143885
1805         D07         559         SACOL0579         conserved hypothetical protein         YP_185465.1         4.254025045           1807         D08         559         SACOL0968         signal peptidase IA, inactive         YP_185837.1         4.300536673           1809         D09         559         SACOL1596         shikimate kinase         YP_186436.1         3.846153846	1804	D06	559	SACOL0519		YP 185407.1	3.148479428
1807         D08         559         SACOL0968         signal peptidase IA, inactive         YP_185837.1         4.300536673           1809         D09         559         SACOL1596         shikimate kinase         YP_186436.1         3.846153846							
1809         D09         559         SACOL1596         shikimate kinase         YP_186436.1         3.846153846							
						YP 186436.1	
	1811	D10	559	SACOL1991	conserved hypothetical protein	YP_186815.1	4.230769231

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## SUPPORTING INFECTIOUS DISEASE RESEARCH

# **Product Information Sheet for NR-19505**

Clone	Well Position	ORF Length	Locus ID	Description (Gene name)	Accession Number	Average Depth of Coverage
1813	D11	559	SACOL2106	conserved hypothetical protein TIGR01440	YP 186921.1	3.837209302
1816	D12	562	SACOL0904	pathogenicity island protein	YP_185775.1	2.414590747
1818	E01	562	SACOL1210	pyrimidine operon regulatory protein	YP_186073.1	2.8113879
1819	E02	562	SACOL1654	hydrolase, HAD-superfamily, subfamily IIIA	YP_186494.1	4.304270463
1821	E03	562	SACOL1727	translation initiation factor IF-3	YP_186565.1	4.286476868
1823	E04	562	SACOL2660	immunodominant antigen B	YP_187448.1	3.256227758
1825	E05	565	SACOL0855	acetyltransferase, GNAT family	YP_185728.1	3.286725664
1827	E06	565	SACOL1032	ComK family protein	YP_185897.1	4.276106195
1829	E07	565	SACOL1703	rod shape-determining protein MreD, putative	YP_186542.1	4.309734513
1831	E08	565	SACOL1936	cytosolic long-chain acyl-CoA thioester hydrolase family protein	YP_186761.1	4.297345133
1833	E09	565	SACOL1956	conserved hypothetical protein	YP_186781.1	4.251327434
1835	E10	565	SACOL2120	DNA-directed RNA polymerase, delta subunit	YP_186935.1	3.07079646
1837	E11	565	SACOL2315	conserved hypothetical protein	YP_187122.1	3.557522124
1840	E12	568	SACOL0073	conserved hypothetical protein	YP_184978.1	4.278169014
1841	F01	568	SACOL1357	thermonuclease precursor family protein	YP_186210.1	4.105633803
1845	F03	571	SACOL0535	primase-related protein	YP_185423.1	4.250437828
1847	F04	571	SACOL0656	conserved hypothetical protein	YP_185541.1	4.257443082
1849	F05	571	SACOL2224	ribosomal protein L6	YP_187034.1	4.273204904
1851	F06	571	SACOL2400	acetyltransferase, GNAT family	YP_187203.1	4.276707531
1854	F07	571	SACOL2634	anaerobic ribonucleoside-triphosphate reductase activating protein	YP_187422.1	3.534150613
1857	F08	574	SACOL0554	hypoxanthine phosphoribosyltransferase	YP_185442.1	4.277003484
1859	F09	574	SACOL0874	nitroreductase family protein	YP_185746.1	3.132404181
1861	F10	574	SACOL1107	transcriptional regulator, Cro/CI family	YP_185971.1	4.217770035
1863	F11	574	SACOL1607	5-formyltetrahydrofolate cyclo-ligase family protein	YP_186447.1	3.534843206
1865	F12	574	SACOL1621	CBS domain protein	YP_186461.1	4.266550523
1867	G01	574	SACOL1882	hypothetical protein	YP_186709.1	4.299651568
1869	G02	574	SACOL2098	ATP synthase F1, delta subunit	YP_186913.1	3.548780488
1871	G03	574	SACOL2227	ribosomal protein L5	YP_187037.1	2.412891986
1873	G04	577	SACOL0357	prophage L54a, deoxyuridine 5-triphosphate nucleotidohydrolase	YP_185249.1	4.268630849
1875	G05	577	SACOL0739	acetyltransferase, GNAT family	YP_185618.1	4.253032929
1877	G06	577	SACOL0785	conserved hypothetical protein	YP_185659.1	4.285961872
1879	G07	577	SACOL1090	conserved hypothetical protein	YP_185954.1	4.266897747
1881	G08	577	SACOL1133	conserved hypothetical protein TIGR00095	YP_185997.1	4.251299827
1884	G09	577	SACOL1317	glycerol uptake operon antiterminator regulatory protein	YP_186173.1	2.818024263
1885	G10	577	SACOL1537	segregation and condensation protein B	YP_186379.1	3.559792028
1887	G11	577	SACOL1542	MutT/nudix family protein	YP_186384.1	3.87694974
1889	G12	577	SACOL1925	conserved hypothetical protein	YP_186750.1	4.272097054
1891	H01	580	SACOL0413	ribosomal-protein-serine acetyltransferase, putative	YP_185305.1	4.284482759
1893	H02	580	SACOL1270	heat shock protein HsIVU, ATPase subunit HsIV	YP_186128.1	4.244827586
1895	H03	580	SACOL1526	conserved hypothetical protein	YP_186369.1	4.251724138
1897	H04	582	SACOL0441	integrase, degenerate	N/A	3.235395189
1901	H05	583	SACOL0618	SIS domain protein	YP_185503.1	4.171526587
1904	H06	583	SACOL2175	conserved hypothetical protein	YP_186986.1	3.130360206
1905	H07	586	SACOL1100	polypeptide deformylase	YP_185964.1	4.271331058
1908	H08	586	SACOL1850	hypothetical protein	YP_186681.1	3.141638225
1910	H09	586	SACOL2349	transcriptional regulator, TetR family	YP_187155.1	3.109215017
1911	H10	589	SACOL1278	ribosome recycling factor	YP_186135.1	4.259762309
1913	H11	589	SACOL1885	conserved hypothetical protein	YP_186711.1	3.285229202
1915	H12	589	SACOL1954	exonuclease	YP_186779.1	4.264855688

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