

***Streptococcus pneumoniae* Gateway®  
Clone Set, Recombinant in *Escherichia coli*, Plate 19**

**Catalog No. NR-19586**

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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:**

Clone plates are replicated using a BioMek® FX robot. 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 only confirms the clone plate orientation and viability of randomly picked clones. BEI Resources does not confirm or validate individual clone identities provided by the contributor.

The *Streptococcus pneumoniae* (*S. pneumoniae*) Gateway® clone set consists of approximately 2029 sequence validated clones from *S. pneumoniae*, strain TIGR4 cloned in *Escherichia coli* (*E. coli*) DH10B-T1 cells.<sup>1</sup> 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 *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-19586.

**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-19586 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 agar containing 50 µg/mL kanamycin

LB 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 18 to 24 hours.

**Citation:**

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: *Streptococcus pneumoniae* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 19, NR-19586.”

**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](http://www.cdc.gov/biosafety/publications/bmbl5/index.htm).

**Disclaimers:**

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**References:**

1. Kwon, K., et al. "A Correlation Analysis of Protein Characteristics Associated with Genome-Wide High Throughput Expression and Solubility of *Streptococcus pneumoniae* Proteins." *Protein Expr. Purif.* 55 (2007): 368-378. PubMed: 17703947.

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



**Table 1: *Streptococcus pneumoniae* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 19 (YSPCT)<sup>1</sup>**

Clone	Well Position	Locus ID	Description	ORF Length	Accession Number	Average Depth of Coverage
79615	A01	SP0602	-	618	-	4.990291
79469	A02	SP0301	-	366	-	3.713115
79535	A03	SP0270	hypothetical protein SP_0270	349	NP_344808.1	2.424069
79651	A04	SP0188	hypothetical protein SP_0188	288	NP_344729.1	2.989583
79597	A05	SP0089	hypothetical protein SP_0089	207	NP_344636.1	2
79671	A06	SP1528	hypothetical protein SP_1528	202	NP_345977.1	2.915842
79575	A07	SP0683	hypothetical protein SP_0683	678	NP_345188.1	4.436578
79678	A08	SP1150	hypothetical protein SP_1150	1149	NP_345619.1	10.55962
79459	A09	SP1031	hypothetical protein SP_1031	984	NP_345506.1	9.04878
79555	A10	SP1611	hypothetical protein SP_1611	472	NP_346055.1	3.995763
79611	A11	SP1305	hypothetical protein SP_1305	1344	NP_345768.1	11.60268
79723	A12	SP0080	hypothetical protein SP_0080	201	NP_344629.1	3
79444	B01	SP1216	hypothetical protein SP_1216	1224	NP_345682.1	7.53268
79547	B02	SP1103	hypothetical protein SP_1103	1080	NP_345574.1	9.699074
79512	B03	SP0874	hypothetical protein SP_0874	840	NP_345361.1	8.195238
79685	B04	SP1165	hypothetical protein SP_1165	1169	NP_345634.1	8.982891
79470	B05	SP0170	hypothetical protein SP_0170	267	NP_344711.1	16.89513
79732	B06	SP0503	hypothetical protein SP_0503	543	NP_345021.1	6.162063
79503	B07	SP0548	hypothetical protein SP_0548	579	NP_345065.1	3.782383
79455	B08	SP0339	-	408	-	3.29902
79690	B09	SP0040	hypothetical protein SP_0040	111	NP_344589.1	3.837838
79491	B10	SP2154	IS3-Spn1, hypothetical protein	1708	-	3.36007
79563	B11	SP0763	hypothetical protein SP_0763	744	NP_345261.1	7.422043
79687	B12	SP2043	hypothetical protein SP_2043	1201	NP_346468.1	2.472107
79481	C01	SP0906	hypothetical protein SP_0906	867	NP_345391.1	7.410611
79624	C02	SP1993	50S ribosomal protein L34	885	NP_346420.1	1.984181
79707	C03	SP2124	hypothetical protein SP_2124	1548	NP_346542.1	4.369509
79528	C04	SP1425	hypothetical protein SP_1425	2097	NP_345882.1	12.12542
79727	C05	SP1078	hypothetical protein SP_1078	1038	NP_345551.1	10.93064
79435	C06	SP2177	hypothetical protein SP_2177	1987	NP_346591.1	3.561651
79663	C07	SP0504	hypothetical protein SP_0504	546	NP_345022.1	4.335165
79586	C08	SP0169	-	267	-	15.75281
79439	C09	SP1488	hypothetical protein SP_1488	163	NP_345940.1	2

Clone	Well Position	Locus ID	Description	ORF Length	Accession Number	Average Depth of Coverage
79583	C10	SP0087	hypothetical protein SP_0087	207	NP_344634.1	4
79447	C11	SP1254	hypothetical protein SP_1254	1272	NP_345719.1	6.941038
79599	C12	SP1217	hypothetical protein SP_1217	1227	NP_345683.1	7.520782
79515	D01	SP0643	transposase family protein	643	-	4.73717
79666	D02	SP0124	hypothetical protein SP_0124	237	NP_344670.1	16.98312
79367	D03	SP0277	hypothetical protein SP_0277	354	NP_344815.1	3.310734
79628	D04	SP0077	hypothetical protein SP_0077	198	NP_344626.1	2.924242
79602	D05	SP0398	hypothetical protein SP_0398	465	NP_344922.1	4.713978
79386	D06	SP1039	hypothetical protein SP_1039	993	NP_345514.1	5.277946
79635	D07	SP0573	hypothetical protein SP_0573	600	NP_345087.1	4.421667
79631	D08	SP0598	hypothetical protein SP_0598	618	NP_345110.1	4.699029
79543	D09	SP1801	hypothetical protein SP_1801	193	NP_346234.1	2
79495	D10	SP1971	hypothetical protein SP_1971	829	NP_346398.1	2
79483	D11	SP0543	hypothetical protein SP_0543	573	NP_345060.1	3.813264
79507	D12	SP1570	hypothetical protein SP_1570	301	NP_346017.1	3
79399	E01	SP0670	hypothetical protein SP_0670	666	NP_345175.1	1.840841
79735	E02	SP1803	hypothetical protein SP_1803	196	NP_346236.1	1.959184
79379	E03	SP1414	30S ribosomal protein S21	1878	NP_345872.1	13.90948
79655	E04	SP2071	hypothetical protein SP_2071	1306	NP_346494.1	1.496937
79710	E05	SP1642	hypothetical protein SP_1642	676	NP_346082.1	5.647929
79570	E06	SP0956	hypothetical protein SP_0956	915	NP_345437.1	4.679781
79489	E07	SP2019	ABC transporter, ATP-binding protein	1003	-	1.901296
79365	E08	SP2004	hypothetical protein SP_2004	910	NP_346431.1	2
79500	E09	SP1531	hypothetical protein SP_1531	205	NP_345980.1	3
79375	E10	SP1592	hypothetical protein SP_1592	406	NP_346038.1	4
79402	E11	SP0540	BlpN protein	570	NP_345057.1	4.991228
79606	E12	SP1605	ferredoxin	451	NP_346049.1	3.731707
79551	F01	SP2140	hypothetical protein SP_2140	1642	NP_346557.1	4.163825
79408	F02	SP0774	hypothetical protein SP_0774	756	NP_345272.1	9.39418
79719	F03	SP0947	hypothetical protein SP_0947	903	NP_345430.1	8.723145
79569	F04	SP1178	NrdH-redoxin	1182	NP_345647.1	9.674281
79451	F05	SP1030	hypothetical protein SP_1030	984	NP_345505.1	9.002033
79716	F06	SP2147	hypothetical protein SP_2147	1666	NP_346564.1	3.243097
79475	F07	SP0738	hypothetical protein SP_0738	717	NP_345237.1	8.050209
79419	F08	SP1844	hypothetical protein SP_1844	304	NP_346277.1	2
79695	F09	SP1440	ABC transporter, ATP-binding protein	130	-	4
79390	F10	SP0533	bacteriocin BlpK	567	NP_345050.1	5.929453
79676	F11	SP1333	hypothetical protein SP_1333	1401	NP_345791.1	18.91221
79426	F12	SP0546	hypothetical protein SP_0546	579	NP_345063.1	3.398964
79397	G01	SP1314	IS66 family Orf1	1344	NP_345772.1	12.27604
79646	G02	SP2212	transposase family protein	2161	-	2.686719
79739	G03	SP1882	hypothetical protein SP_1882	460	NP_346314.1	2
79383	G04	SP1147	integrase/recombinase, phage integrase family	1149	-	8.89295
79540	G05	SP1092	hypothetical protein SP_1092	1062	NP_345564.1	8.088512
79425	G06	SP0810	hypothetical protein SP_0810	786	NP_345306.1	7.924936
79937	G07	SP0792	hypothetical protein SP_0792	771	NP_345289.1	9.461738
80077	G08	SP0363	transposase family protein	438	-	1.910959
80119	G09	SP1296	hypothetical protein SP_1296	1338	NP_345760.1	10.26457
80124	G10	SP0088	hypothetical protein SP_0088	207	NP_344635.1	3

Clone	Well Position	Locus ID	Description	ORF Length	Accession Number	Average Depth of Coverage
79950	G11	SP0900	IS1381, transposase OrfA	861	-	8.789779
80071	G12	SP0222	30S ribosomal protein S14	309	NP_344762.1	4.236246
79899	H01	SP1974	acylphosphatase	841	NP_346401.1	2
79858	H02	SP0220	50S ribosomal protein L24	309	NP_344760.1	4.485437
79959	H03	SP0901	hypothetical protein SP_0901	864	NP_345386.1	8.756944
80061	H04	SP1105	50S ribosomal protein L21	1083	NP_345576.1	8.44229
80091	H05	SP1323	hypothetical protein SP_1323	1347	NP_345781.1	11.1121
79920	H06	SP2139	hypothetical protein SP_2139	1642	NP_346556.1	4.051157
80085	H07	SP0329	hypothetical protein SP_0329	396	NP_344865.1	1.825758
79928	H08	SP0372	hypothetical protein SP_0372	447	NP_344899.1	4.344519
80016	H09	SP0642	IS1167, transposase	642	-	4.166667
79748	H10	SP0700	-	690	NP_345204.1	13.02464
79939	H11	SP1259	hypothetical protein SP_1259	1281	NP_345723.1	13.41452
79862	H12	SP2014	IS630-Spn1, transposase Orf2	979	NP_346441.1	1.624106

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