

***Bacillus anthracis* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 15**

**Catalog No. NR-19739**

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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 *Bacillus anthracis* (*B. anthracis*) Gateway® clone set consists of 58 plates which contain 5341 sequence validated clones from *B. anthracis*, strains Ames (5139 clones), Sterne (107 clones; contains plasmid pXO1 only) and A2012 (95 clones; contains plasmid pXO2 only) cloned in *Escherichia coli* (*E. coli*) DH10B-T1 cells. Each open reading frame was constructed in vector pDONR™221 (Invitrogen™) with an ATG start codon and no stop codon. The library was independently cloned and sequence verified by the [Harvard Institute of Proteomics](#). 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 a Harvard-modified *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-19739.

**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-19739 was packaged aseptically in 96-well plates. 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 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 24 hours.

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Bacillus anthracis* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 15, NR-19739."

**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/bmb15/index.htm](http://www.cdc.gov/biosafety/publications/bmb15/index.htm).

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**References:**

1. Read, T. D., et al. "The Genome Sequence of *Bacillus anthracis* Ames and Comparison to Closely Related Bacteria." *Nature* 423 (2003): 81-86. PubMed: 12721629.
2. Read, T. D., et al. "Comparative Genome Sequencing for Discovery of Novel Polymorphisms in *Bacillus anthracis*." *Science* 296 (2002): 2028-2033. PubMed: 12004073.

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**Table 1: *Bacillus anthracis*, Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 15 (QMG002856)<sup>1</sup>**

Clone	Well Position	Locus ID	Description	Source	Accession Number	FLEX CloneID
47709	A02	BA5333	hypothetical protein	Chromosome (NC_003997)	NP_847509.1	243916
50958	A03	BA2979	transcriptional regulator, putative	Chromosome (NC_003997)	NP_845313.1	243931
51102	A04	BA2976	ribose ABC transporter, permease protein, putative	Chromosome (NC_003997)	NP_845310.1	243941
49137	A05	BA5312	hypothetical protein	Chromosome (NC_003997)	NP_847488.1	243952
49312	A06	BA3002	hypothetical protein	Chromosome (NC_003997)	NP_845334.1	243962
49444	A07	BA2966	hypothetical protein	Chromosome (NC_003997)	NP_845300.1	243972
49690	A08	BA2970	RNA polymerase sigma-70 factor, ECF subfamily	Chromosome (NC_003997)	NP_845304.2	243980
50267	A09	BA3008	response regulator	Chromosome (NC_003997)	NP_845340.1	243998
47724	A10	BA0512	hypothetical protein	Chromosome (NC_003997)	NP_843048.1	246354
50507	A11	BA0485	prophage LambdaBa04, glycosyl hydrolase, family 25, putative	Chromosome (NC_003997)	NP_843024.1	246366
48127	A12	BA2344	hypothetical protein	Chromosome (NC_003997)	NP_844727.1	246377
49295	B01	BA3513	hypothetical protein	Chromosome (NC_003997)	NP_845793.1	242930
50562	B02	BA5307	hypothetical protein	Chromosome (NC_003997)	NP_847484.1	243919
48631	B03	BA5295	hypothetical protein	Chromosome (NC_003997)	NP_847473.1	243932
48749	B04	BA5346	hypothetical protein	Chromosome (NC_003997)	NP_847520.1	243942
49158	B05	BA2971	hypothetical protein	Chromosome (NC_003997)	NP_845305.1	243954
49335	B06	BA2990	hypothetical protein	Chromosome (NC_003997)	NP_845323.1	243964
51595	B07	BA2988	permease, putative	Chromosome (NC_003997)	NP_845321.1	243973
51769	B08	BA2967	hypothetical protein	Chromosome (NC_003997)	NP_845301.1	243981
50320	B09	BA2997	transcriptional regulator, lclR family	Chromosome (NC_003997)	NP_845329.1	244002
50128	B10	BA4736	DNA-binding response regulator	Chromosome (NC_003997)	NP_846945.1	246355
47897	B11	BA2362	hypothetical protein	Chromosome (NC_003997)	NP_844744.1	246367
51026	B12	BA0507	NAD-dependent epimerase/dehydratase family protein	Chromosome (NC_003997)	NP_843043.1	246378
49285	C01	BA1095	hypothetical protein	Chromosome (NC_003997)	NP_843588.1	242932
48078	C02	BA5342	hypothetical protein	Chromosome (NC_003997)	NP_847516.1	243920
50990	C03	BA5338	inosine-uridine preferring nucleoside hydrolase family protein	Chromosome (NC_003997)	NP_847513.1	243933

Clone	Well Position	Locus ID	Description	Source	Accession Number	FLEX CloneID
48799	C04	BA2981	polyketide synthesis domain protein	Chromosome (NC_003997)	NP_845314.1	243944
51302	C05	BA2958	chorismate mutase/phospho-2-dehydro-3-deoxyheptonate aldolase	Chromosome (NC_003997)	NP_845293.1	243955
51514	C06	BA5298	nucleoside transporter, NupC family	Chromosome (NC_003997)	NP_847475.1	243965
49500	C07	BA2963	isochorismatase family protein	Chromosome (NC_003997)	NP_845297.1	243974
49640	C08	BA2951	transcriptional regulator, TetR family	Chromosome (NC_003997)	NP_845286.1	243982
50327	C09	BA5304	hypothetical protein	Chromosome (NC_003997)	NP_847481.1	244004
47810	C10	BA0484	hypothetical protein	Chromosome (NC_003997)	NP_843023.1	246356
48048	C11	BA0504	hypothetical protein	Chromosome (NC_003997)	NP_843041.1	246370
48217	C12	BA2373	mbtH-like protein	Chromosome (NC_003997)	NP_844755.1	246379
49321	D01	BA1113	RNA polymerase sigma-70 factor, ECF subfamily	Chromosome (NC_003997)	NP_843600.1	242934
48178	D02	BA3003	DNA-binding protein	Chromosome (NC_003997)	NP_845335.1	243922
50997	D03	BA2977	ribose ABC transporter, permease protein, putative	Chromosome (NC_003997)	NP_845311.1	243935
51147	D04	BA5330	iron compound ABC transporter, iron compound-binding protein	Chromosome (NC_003997)	NP_847506.1	243945
49213	D05	BA5340	hypothetical protein	Chromosome (NC_003997)	NP_847515.1	243956
49385	D06	BA2983	acetyltransferase, GNAT family	Chromosome (NC_003997)	NP_845316.1	243966
51625	D07	BA2992	gamma-glutamyl phosphate reductase	Chromosome (NC_003997)	NP_845325.1	243975
49698	D08	BA5294	conserved hypothetical protein TIGR00730	Chromosome (NC_003997)	NP_847472.1	243986
47612	D09	BA2391	hypothetical protein	Chromosome (NC_003997)	NP_844769.1	246348
47856	D10	BA0498	hypothetical protein	Chromosome (NC_003997)	NP_843035.1	246358
50832	D11	BA4726	transporter, EamA family	Chromosome (NC_003997)	NP_846937.1	246371
51134	D12	BA4706	hypothetical protein	Chromosome (NC_003997)	NP_846919.1	246382
49380	E01	BA1085	acetyltransferase, GNAT family	Chromosome (NC_003997)	NP_843578.1	242936
48263	E02	BA5336	preprotein translocase, SecG subunit	Chromosome (NC_003997)	NP_847512.1	243924
48694	E03	BA2985	hypothetical protein	Chromosome (NC_003997)	NP_845318.1	243936
48902	E04	BA3005	lipoprotein, putative	Chromosome (NC_003997)	NP_845337.1	243946
51353	E05	BA2993	glutamate 5-kinase	Chromosome (NC_003997)	NP_845326.1	243957
49405	E06	BA5296	ferritin	Chromosome (NC_003997)	NP_847474.1	243968
49512	E07	BA2964	acetyltransferase, GNAT family	Chromosome (NC_003997)	NP_845298.1	243976
49706	E08	BA3009	hypothetical protein	Chromosome (NC_003997)	NP_845341.1	243988
49972	E09	BA0494	DNA-binding protein	Chromosome (NC_003997)	NP_843031.1	246349
47862	E10	BA2366	hypothetical protein	Chromosome (NC_003997)	NP_844748.1	246361
48101	E11	BA4711	hypothetical protein	Chromosome (NC_003997)	NP_846923.1	246372
48278	E12	BA0483	hypothetical protein	Chromosome (NC_003997)	NP_843022.1	246383
47618	F01	BA5306	hypothetical protein	Chromosome (NC_003997)	NP_847483.1	243912
48527	F02	BA2984	hypothetical protein	Chromosome (NC_003997)	NP_845317.1	243926
51011	F03	BA3000	fatty acid desaturase	Chromosome (NC_003997)	NP_845332.1	243937
51155	F04	BA5329	iron compound ABC transporter, permease protein	Chromosome (NC_003997)	NP_847505.1	243947
51458	F05	BA2952	acetyltransferase, GNAT family	Chromosome (NC_003997)	NP_845287.1	243959
51542	F06	BA2991	nucleoside transporter, NupC family	Chromosome (NC_003997)	NP_845324.1	243969

Clone	Well Position	Locus ID	Description	Source	Accession Number	FLEX CloneID
51648	F07	BA5314	tyrosyl-tRNA synthetase	Chromosome (NC_003997)	NP_847490.1	243977
49930	F08	BA5302	hypothetical protein	Chromosome (NC_003997)	NP_847479.1	243992
47686	F09	BA2365	hypothetical protein	Chromosome (NC_003997)	NP_844747.1	246350
50394	F10	BA2378	hypothetical protein	Chromosome (NC_003997)	NP_844760.1	246362
48086	F11	BA2361	hypothetical protein	Chromosome (NC_003997)	NP_844743.1	246374
51185	F12	BA4733	oligopeptide ABC transporter, ATP-binding protein	Chromosome (NC_003997)	NP_846943.1	246384
47680	G01	BA2968	hypothetical protein	Chromosome (NC_003997)	NP_845302.1	243914
50893	G02	BA5315	UDP-N-acetylenolpyruvoylglucosamine reductase	Chromosome (NC_003997)	NP_847491.1	243927
48735	G03	BA5311	hypothetical protein	Chromosome (NC_003997)	NP_847487.1	243938
51246	G04	BA2975	sugar ABC transporter, sugar-binding protein, putative	Chromosome (NC_003997)	NP_845309.1	243949
49282	G05	BA5347	hypothetical protein	Chromosome (NC_003997)	NP_847521.1	243960
49437	G06	BA5339	hypothetical protein	Chromosome (NC_003997)	NP_847514.1	243970
49540	G07	BA3010	acetyltransferase, GNAT family	Chromosome (NC_003997)	NP_845342.1	243978
50072	G08	BA5331	DNA-binding response regulator	Chromosome (NC_003997)	NP_847507.1	243994
50014	G09	BA4722	thiJ/pfpl family protein	Chromosome (NC_003997)	NP_846933.1	246351
47866	G10	BA4709	hypothetical protein	Chromosome (NC_003997)	NP_846921.1	246363
50899	G11	BA4732	oligopeptide ABC transporter, permease protein	Chromosome (NC_003997)	NP_846942.1	246375
48284	G12	BA2358	hypothetical protein	Chromosome (NC_003997)	NP_844740.1	246385
50459	H01	BA2982	hypothetical protein	Chromosome (NC_003997)	NP_845315.1	243915
48526	H02	BA2965	hypothetical protein	Chromosome (NC_003997)	NP_845299.1	243928
51034	H03	BA5326	lipoprotein, putative	Chromosome (NC_003997)	NP_847502.1	243939
51253	H04	BA2973	hypothetical protein	Chromosome (NC_003997)	NP_845307.1	243951
51505	H05	BA5313	pyridine nucleotide-disulphide oxidoreductase	Chromosome (NC_003997)	NP_847489.1	243961
51589	H06	BA5309	major facilitator family transporter	Chromosome (NC_003997)	NP_847486.1	243971
51759	H07	BA3007	histidine kinase domain protein	Chromosome (NC_003997)	NP_845339.1	243979
50093	H08	BA3006	CAAX amino terminal protease family protein	Chromosome (NC_003997)	NP_845338.1	243996
50096	H09	BA4720	thiJ/pfpl family protein	Chromosome (NC_003997)	NP_846931.1	246353
50434	H10	BA2368	2,3-dihydro-2,3-dihydroxybenzoate dehydrogenase	Chromosome (NC_003997)	NP_844750.1	246364
48106	H11	BA0488	hypothetical protein	Chromosome (NC_003997)	NP_843026.1	246376

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