

***Bacillus anthracis* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 10**

**Catalog No. NR-19734**

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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-19734.

**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-19734 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 10, NR-19734."

**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 10 (QMG002851)<sup>1</sup>**

Clone	Well Position	Locus ID	Description	Source	Accession Number	FLEX CloneID
48269	A02	BA4200	hypothetical protein	Chromosome (NC_003997)	NP_846436.1	246570
48592	A03	BA2311	thioredoxin family protein	Chromosome (NC_003997)	NP_844696.1	246578
51816	A04	BA2288	CBS domain protein	Chromosome (NC_003997)	NP_844673.1	246589
49375	A05	BA4215	hypothetical protein	Chromosome (NC_003997)	NP_846450.1	246603
50217	A06	BA2240	1-acyl-sn-glycerol-3-phosphate acyltransferase, putative	Chromosome (NC_003997)	NP_844631.1	246793
50602	A07	BA4554	pyrroline-5-carboxylate reductase, putative	Chromosome (NC_003997)	NP_846776.2	246805
48870	A08	BA0360	hypothetical protein	Chromosome (NC_003997)	NP_842905.1	246814
50906	A09	BA4601	O-acetylserine lyase	Chromosome (NC_003997)	NP_846820.1	246823
49266	A10	BA2224	hypothetical protein	Chromosome (NC_003997)	NP_844616.1	246832
49522	A11	BA4579	hypothetical protein	Chromosome (NC_003997)	NP_846800.1	246841
49734	A12	BA2249	SCO1/SenC family lipoprotein	Chromosome (NC_003997)	NP_844639.1	246852
50660	B01	BA2298	acetyltransferase, GNAT family	Chromosome (NC_003997)	NP_844683.1	246561
48420	B02	BA2301	hypothetical protein	Chromosome (NC_003997)	NP_844686.1	246571
48702	B03	BA0432	prophage LambdaBa04, DNA-binding protein	Chromosome (NC_003997)	NP_842974.1	246580
49131	B04	BA4236	lipoprotein, putative	Chromosome (NC_003997)	NP_846471.1	246590
49415	B05	BA4233	hypothetical protein	Chromosome (NC_003997)	NP_846468.1	246605
48242	B06	BA4598	hypothetical protein	Chromosome (NC_003997)	NP_846817.1	246794
48596	B07	BA4587	pterin-4-alpha-carbinolamine dehydratase, putative	Chromosome (NC_003997)	NP_846807.1	246806
50667	B08	BA2246	degV family protein	Chromosome (NC_003997)	NP_844637.1	246815
49210	B09	BA4592	acetyltransferase, GNAT family	Chromosome (NC_003997)	NP_846811.1	246824
51157	B10	BA0349	iron compound ABC transporter, permease protein	Chromosome (NC_003997)	NP_842896.1	246833
49556	B11	BA4590	DNA-binding protein	Chromosome (NC_003997)	NP_846809.1	246842
49733	B12	BA2230	hypothetical protein	Chromosome (NC_003997)	NP_844621.1	246853
48177	C01	BA2302	hypothetical protein	Chromosome (NC_003997)	NP_844687.1	246562
51344	C02	BA4232	sugar ABC transporter, ATP-binding protein	Chromosome (NC_003997)	NP_846467.1	246572
51655	C03	BA1854	threonine dehydratase, biosynthetic	Chromosome (NC_003997)	NP_844271.1	246581
51850	C04	BA2299	arginine utilization regulatory protein RocR	Chromosome (NC_003997)	NP_844684.1	246591
49496	C05	BA2322	hypothetical protein	Chromosome (NC_003997)	NP_844707.1	246607

Clone	Well Position	Locus ID	Description	Source	Accession Number	FLEX CloneID
48277	C06	BA0354	DNA binding domain, excisionase family	Chromosome (NC_003997)	NP_842901.1	246796
50510	C07	BA2219	membrane protein, putative	Chromosome (NC_003997)	NP_844611.1	246807
48955	C08	BA4594	ankyrin repeat domain protein	Chromosome (NC_003997)	NP_846813.1	246816
50914	C09	BA4561	shikimate 5-dehydrogenase	Chromosome (NC_003997)	NP_846783.1	246825
49376	C10	BA4578	hypothetical protein	Chromosome (NC_003997)	NP_846799.1	246834
49584	C11	BA0335	hypothetical protein	Chromosome (NC_003997)	NP_842882.1	246844
49795	C12	BA4580	phosphoglycerate mutase family, putative	Chromosome (NC_003997)	NP_846801.1	246855
50680	D01	BA4666	prephenate dehydratase	Chromosome (NC_003997)	NP_846881.1	246563
48488	D02	BA0445	prophage LambdaBa04, transactivating regulatory domain protein	Chromosome (NC_003997)	NP_842987.1	246573
51665	D03	BA2297	peptidase, M20/M25/M40 family	Chromosome (NC_003997)	NP_844682.1	246583
49193	D04	BA4235	hypothetical protein	Chromosome (NC_003997)	NP_846470.1	246592
47656	D05	BA2244	hypothetical protein	Chromosome (NC_003997)	NP_844635.1	246783
48337	D06	BA2245	hypothetical protein	Chromosome (NC_003997)	NP_844636.1	246798
48773	D07	BA4556	iojap-related protein	Chromosome (NC_003997)	NP_846778.1	246808
50715	D08	BA4577	hydrolase, alpha/beta fold family	Chromosome (NC_003997)	NP_846798.1	246817
49220	D09	BA2250	heat shock protein, Hsp20 family	Chromosome (NC_003997)	NP_844640.1	246826
49402	D10	BA4593	acetyltransferase, GNAT family	Chromosome (NC_003997)	NP_846812.1	246835
51603	D11	BA0346	5-methylthioribose kinase, putative	Chromosome (NC_003997)	NP_842893.1	246847
49864	D12	BA4571	nitroreductase family protein	Chromosome (NC_003997)	NP_846793.1	246857
48199	E01	BA0433	prophage LambdaBa04, DNA-binding protein	Chromosome (NC_003997)	NP_842975.1	246564
48489	E02	BA2304	hypothetical protein	Chromosome (NC_003997)	NP_844689.1	246574
48917	E03	BA4219	competence protein j	Chromosome (NC_003997)	NP_846454.1	246584
49208	E04	BA4210	hypothetical protein	Chromosome (NC_003997)	NP_846445.1	246594
47661	E05	BA4559	hypothetical protein	Chromosome (NC_003997)	N/A	246784
48509	E06	BA4567	hypothetical protein	Chromosome (NC_003997)	NP_846789.1	246800
50532	E07	BA0376	hydroxyethylthiazole kinase	Chromosome (NC_003997)	NP_842920.1	246809
48977	E08	BA4589	hypothetical protein	Chromosome (NC_003997)	NP_846808.1	246818
50928	E09	BA2233	hypothetical protein	Chromosome (NC_003997)	NP_844624.1	246827
49422	E10	BA0336	hypothetical protein	Chromosome (NC_003997)	NP_842883.1	246836
49653	E11	BA4557	conserved hypothetical protein TIGR00488	Chromosome (NC_003997)	NP_846779.1	246848
49935	E12	BA2231	hydrolase, haloacid dehalogenase-like family	Chromosome (NC_003997)	NP_844622.1	246859
50697	F01	BA4205	Ser/Thr protein phosphatase family protein	Chromosome (NC_003997)	NP_846441.1	246565
51471	F02	BA4225	aminotransferase, classes I and II	Chromosome (NC_003997)	NP_846460.1	246575
51679	F03	BA4223	sporulation kinase B	Chromosome (NC_003997)	NP_846458.1	246585
49218	F04	BA1843	hypothetical protein	Chromosome (NC_003997)	NP_844262.1	246596
47673	F05	BA0356	hypothetical protein	Chromosome (NC_003997)	NP_842902.1	246786
50481	F06	BA4565	phosphatidylserine decarboxylase	Chromosome (NC_003997)	NP_846787.1	246801
48819	F07	BA0353	hypothetical protein	Chromosome (NC_003997)	NP_842900.1	246810
50866	F08	BA2217	hydrolase, alpha/beta fold family	Chromosome (NC_003997)	NP_844609.1	246819

Clone	Well Position	Locus ID	Description	Source	Accession Number	FLEX CloneID
49242	F09	BA4573	lipoprotein, putative	Chromosome (NC_003997)	NP_846795.1	246828
51242	F10	BA0347	translation initiation factor, putative, aIF-2BI family	Chromosome (NC_003997)	NP_842894.1	246837
51661	F11	BA0358	hypothetical protein	Chromosome (NC_003997)	NP_842904.1	246849
49931	F12	BA0348	L-fucose phosphate aldolase	Chromosome (NC_003997)	NP_842895.1	246861
48270	G01	BA4201	glutaredoxin family protein	Chromosome (NC_003997)	NP_846437.1	246568
48514	G02	BA2306	hypothetical protein	Chromosome (NC_003997)	NP_844691.1	246576
48922	G03	BA2290	hypothetical protein	Chromosome (NC_003997)	NP_844675.1	246586
49229	G04	BA0443	hypothetical protein	Chromosome (NC_003997)	NP_842984.1	246598
47758	G05	BA4564	hypothetical protein	Chromosome (NC_003997)	NP_846786.1	246788
48508	G06	BA4560	conserved hypothetical protein TIGR00253	Chromosome (NC_003997)	NP_846782.1	246802
48869	G07	BA4591	maoC family protein	Chromosome (NC_003997)	NP_846810.1	246812
49077	G08	BA2227	acetyltransferase, GNAT family	Chromosome (NC_003997)	NP_844618.1	246820
50980	G09	BA4597	iron compound ABC transporter, iron compound-binding protein	Chromosome (NC_003997)	NP_846816.1	246829
49433	G10	BA4563	hydrolase, HAD subfamily IIIA	Chromosome (NC_003997)	NP_846785.1	246838
49672	G11	BA2218	hypothetical protein	Chromosome (NC_003997)	NP_844610.1	246850
49969	G12	BA4572	hypothetical protein	Chromosome (NC_003997)	NP_846794.1	246863
50827	H01	BA1849	branched-chain amino acid aminotransferase	Chromosome (NC_003997)	NP_844267.1	246569
48537	H02	BA2319	hypothetical protein	Chromosome (NC_003997)	NP_844704.1	246577
49014	H03	BA0442	hypothetical protein	Chromosome (NC_003997)	NP_842983.1	246587
49336	H04	BA4202	hypothetical protein	Chromosome (NC_003997)	NP_846438.1	246601
48005	H05	BA2242	twin-arginine translocation protein, TatA/E family	Chromosome (NC_003997)	NP_844633.1	246792
48567	H06	BA2232	hypothetical protein	Chromosome (NC_003997)	NP_844623.1	246804
50626	H07	BA4576	acetyltransferase, GNAT family	Chromosome (NC_003997)	NP_846797.1	246813
50884	H08	BA0351	iron compound ABC transporter, iron compound-binding protein	Chromosome (NC_003997)	NP_842898.1	246821
49259	H09	BA4568	hypothetical protein	Chromosome (NC_003997)	NP_846790.1	246830
49654	H10	BA4558	nicotinate (nicotinamide) nucleotide adenyltransferase	Chromosome (NC_003997)	NP_846780.2	246840
51710	H11	BA0370	methyl-accepting chemotaxis protein	Chromosome (NC_003997)	NP_842914.1	246851

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