

***Mycobacterium tuberculosis* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 13**

Catalog No. NR-19649

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For research use only. Not for human use.

Contributor:

Pathogen Functional Genomics Resource Center at the J. Craig Venter Institute

Manufacturer:

BEI Resources

Product Description:

Production in the 96-well format has increased risk of cross-contamination between adjacent wells. Individual clones should be purified (e.g. single colony isolation and purification using good microbiological practices) and sequence-verified prior to use. BEI Resources does not confirm or validate individual mutants provided by the contributor.

The *Mycobacterium tuberculosis* (*M. tuberculosis*), Gateway® clone set consists of 42 plates which contain 3724 sequence validated clones (3294 *M. tuberculosis*, strain H37Rv clones supplemented with 430 unique open reading frames (ORF) from *M. tuberculosis*, strain CDC1551) cloned in *Escherichia coli* (*E. coli*) DH10B-T1 cells. Each ORF was recombined in vector pDONR™221 with an ATG start codon and no stop codon. The sequence was validated by full length sequencing of each entry 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-19649.

Material Provided:

Each inoculated well of the 96-well plate contains approximately 60 µL of culture in Luria Bertani (LB) broth containing 50 µg/mL kanamycin supplemented with 15% glycerol.

Packaging/Storage:

NR-19649 was packaged aseptically in a 96-well plate. The

product is provided frozen and should be stored at -80°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

Growth Conditions:

Media:

LB broth or agar containing 50 µg/mL kanamycin

Incubation:

Temperature: 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 1 day.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Mycobacterium tuberculosis* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 13, NR-19649."

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:

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References:

1. Cole, S. T., et al. "Deciphering the Biology of *Mycobacterium tuberculosis* from the Complete Genome Sequence." *Nature* 393 (1998): 537-544. PubMed: 9634230.
2. Camus, J. C., et al. "Re-Annotation of the Genome Sequence of *Mycobacterium tuberculosis* H37Rv." *Microbiology* 148 (2002): 2967-2973. PubMed: 12368430.

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Table 1: *Mycobacterium tuberculosis*, Gateway® Clones, Plate 13 (ZMTLC)¹

Clone	Well Position	ORF Length	Locus ID	Description (Gene name)	Accession Number	Average Depth of Coverage
10112	A01	352	Rv1290A	hypothetical protein	NP_215806.1	3.005681818
10098	A02	352	Rv3022A	PPE family protein	YP_177684.1	4.022727273
40352	A03	355	Rv0027	hypothetical protein	NP_214541.1	2.695774648
40361	A04	355	Rv2274c	hypothetical protein	NP_216790.1	2
40356	A05	355	Rv1495	hypothetical protein	NP_216011.1	2.205633803
40362	A06	355	Rv2375	hypothetical protein	NP_216891.1	2
40354	A07	355	Rv0715	50S ribosomal protein L24	NP_215229.1	2
40353	A08	355	Rv0531	hypothetical protein	NP_215045.1	2
40358	A09	355	Rv2044c	hypothetical protein	NP_216560.1	3.171830986
40364	A10	355	Rv3592	hypothetical protein	NP_218109.1	1.892957746
40355	A11	355	Rv0948c	hypothetical protein	NP_215463.1	2
40363	A12	355	Rv2644c	hypothetical protein	NP_217160.1	2
40365	B01	358	Rv1103c	hypothetical protein	NP_215619.1	2
40368	B02	358	Rv3706c	proline rich protein	NP_218223.1	3.268156425
40366	B03	358	Rv1344	acyl carrier protein	NP_215860.1	2
10124	B04	358	Rv1087A	hypothetical protein	YP_177637.1	3.156424581
40375	B06	361	Rv3488	hypothetical protein	NP_218005.1	2
40376	B07	361	Rv3891c	ESAT-6 like protein EsxD	NP_218408.1	2
40370	B08	361	Rv1117	hypothetical protein	NP_215633.1	2
40373	B09	361	Rv2653c	phiRv2 prophage protein	NP_217169.1	2
40372	B10	361	Rv2481c	hypothetical protein	NP_216997.1	1.900277008
40371	B11	361	Rv2034	ArsR-type repressor protein	NP_216550.1	2
40374	B12	361	Rv3065	multidrug-transport integral membrane protein MMR	YP_177922.1	2
40400	C01	364	Rv3381c	transposase	NP_217898.1	2.315934066
40386	C02	364	Rv1804c	hypothetical protein	NP_216320.1	2
40394	C03	364	Rv2798c	hypothetical protein	NP_217314.1	2
40381	C04	364	Rv1177	ferredoxin FdxC	NP_215693.1	2
40398	C05	364	Rv3325	transposase	NP_217842.1	3.302197802
40389	C06	364	Rv2278	transposase	NP_216794.1	2
40402	C07	364	Rv3474	transposase IS6110	NP_217991.1	2
40384	C08	364	Rv1757c	putative transposase	NP_216273.1	2
40383	C09	364	Rv1489c	hypothetical protein	YP_177646.1	-
40385	C10	364	Rv1763	putative transposase	NP_216279.1	2
40392	C11	364	Rv2480c	transposase	NP_216996.1	2
40395	C12	364	Rv2815c	transposase	NP_217331.1	3.318681319
40382	D01	364	Rv1370c	transposase	NP_215886.1	2
40393	D02	364	Rv2648	transposase IS6110	NP_217164.1	2
40378	D03	364	Rv0795	transposase IS6110	NP_215310.1	1.60989011
40390	D04	364	Rv2348c	hypothetical protein	NP_216864.1	2
40397	D05	364	Rv3186	transposase	NP_217702.1	2
40396	D06	364	Rv3184	transposase	NP_217700.1	2
40388	D07	364	Rv2168c	transposase	NP_216684.1	2
40391	D08	364	Rv2354	transposase	NP_216870.1	2
40387	D09	364	Rv2105	transposase	NP_216621.1	1.612637363

Clone	Well Position	ORF Length	Locus ID	Description (Gene name)	Accession Number	Average Depth of Coverage
40412	D10	367	Rv1942c	hypothetical protein	NP_216458.1	2
40413	D11	367	Rv2273	transmembrane protein	NP_216789.1	2
40416	D12	367	Rv3612c	hypothetical protein	NP_218129.1	2
40409	E01	367	Rv0692	hypothetical protein	NP_215206.1	-
40411	E02	367	Rv1351	hypothetical protein	NP_215867.1	2.689373297
40415	E03	367	Rv3183	transcriptional regulatory protein	NP_217699.1	1.662125341
40432	E04	370	Rv3686c	hypothetical protein	NP_218203.1	2
40418	E05	370	Rv0759c	hypothetical protein	NP_215273.1	2
40424	E06	370	Rv1390	DNA-directed RNA polymerase subunit omega	NP_215906.1	2
40433	E07	370	Rv3898c	hypothetical protein	NP_218415.1	2
40426	E08	370	Rv2639c	hypothetical protein	NP_217155.1	2
40422	E09	370	Rv1174c	low molecular weight T-cell antigen TB8.4	NP_215690.1	2
40417	E10	370	Rv0156	NAD(P) transhydrogenase subunit alpha	NP_214670.1	2
40431	E12	370	Rv3453	transmembrane protein	NP_217970.1	2
40419	F01	370	Rv0850	transposase	NP_215365.1	2
40425	F02	370	Rv2269c	hypothetical protein	NP_216785.1	1.905405405
40420	F03	370	Rv0991c	putative serine rich protein	NP_215506.1	3.594594595
40423	F04	370	Rv1214c	PE family protein	YP_177797.1	2
40437	F06	373	Rv3819	hypothetical protein	NP_218336.1	2
40434	F07	373	Rv1291c	hypothetical protein	NP_215807.1	3.292225201
40435	F08	373	Rv2050	hypothetical protein	NP_216566.1	2
40436	F09	373	Rv3746c	PE family protein	YP_178011.1	2
10070	F10	373	Rv1990A	transcriptional regulatory protein	NP_216506.1	2.975871314
40441	F11	376	Rv2745c	transcriptional regulatory protein	NP_217261.1	2
40442	F12	376	Rv2919c	nitrogen regulatory protein P-II GLNB	NP_217435.1	2
40440	G01	376	Rv1036c	truncated IS1560 transposase	NP_215552.1	2
40443	G02	376	Rv3004	low molecular weight protein antigen 6 (CFP-6)	NP_217520.1	2
40438	G03	376	Rv0559c	hypothetical protein	NP_215073.1	2
40444	G04	376	Rv3316	succinate dehydrogenase cytochrome B-556 subunit	NP_217833.1	2
40439	G05	376	Rv0665	hypothetical protein	NP_215179.1	2
40445	G06	376	Rv3597c	iron-regulated LSR2 protein precursor	NP_218114.1	2
40446	G07	379	Rv0572c	hypothetical protein	NP_215086.1	2
40450	G08	379	Rv2365c	hypothetical protein	NP_216881.1	2
40451	G09	379	Rv2816c	hypothetical protein	NP_217332.1	2
40449	G10	379	Rv1990c	dehydrogenase	YP_177656.1	2
40448	G11	379	Rv1271c	hypothetical protein	NP_215787.1	2
40447	G12	379	Rv1136	enoyl-CoA hydratase	NP_215652.1	2
40452	H01	379	Rv2904c	50S ribosomal protein L19	NP_217420.1	2
10075	H02	379	Rv2160c	hypothetical protein	NP_216676.1	2
40458	H03	382	Rv3182	hypothetical protein	NP_217698.1	2
40454	H04	382	Rv1991c	hypothetical protein	NP_216507.1	2
40460	H05	382	Rv3632	hypothetical protein	NP_218149.1	2
40453	H06	382	Rv0081	transcriptional regulatory protein	NP_214595.1	2
40455	H07	382	Rv2007c	ferredoxin FDXA	NP_216523.1	2
40459	H08	382	Rv3353c	hypothetical protein	NP_217870.2	2
40461	H09	385	Rv0039c	transmembrane protein	NP_214553.1	1.981818182
40473	H10	385	Rv3636	transposase	NP_218153.1	2
40467	H11	385	Rv1606	phosphoribosyl-AMP cyclohydrolase	NP_216638.2	2
40469	H12	385	Rv1805c	hypothetical protein	NP_216321.1	2

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