

***Mycobacterium tuberculosis* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 11**

Catalog No. NR-19647

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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-19647.

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-19647 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 11, NR-19647."

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 11 (ZMTLA)¹

Clone	Well Position	ORF Length	Locus ID	Description (Gene name)	Accession Number	Average Depth of Coverage
10078	A01	130	Rv1028A	membrane protein kdpF	YP 177636.1	2.569230769
9995	A03	166	Rv0157A			2
39956	A04	175	Rv1434	hypothetical protein Rv1434	NP 215950.1	1.84
10102	A05	175	Rv0749A	hypothetical protein Rv0749A	YP 177632.1	1.988571429
39962	A06	187	Rv1119c	hypothetical protein Rv1119c	NP 215635.1	1.839572193
39963	A07	190	Rv0900	hypothetical protein Rv0900	NP 215415.1	2
39967	A08	199	Rv3613c	hypothetical protein Rv3613c	NP 218130.1	2.688442211
10003	A09	199	Rv3678A	hypothetical protein Rv3678A	YP 178004.1	2
39972	A10	202	Rv3489	hypothetical protein Rv3489	NP 218006.1	2.371287129
39970	A11	202	Rv2057c	50S ribosomal protein L33	YP 177856.1	-
39973	A12	205	Rv3251c	rubredoxin RUBA	NP 217768.1	2
9978	B01	205	Rv0634B	50S ribosomal protein L33	YP 177630.1	2
10107	B02	205	Rv1706A	PPE family protein	YP 177828.1	-
9942	B03	208	Rv2970A	lipase/esterase LipN	NP 217486.1	1.831730769
10073	B05	211	Rv0979A	50S ribosomal protein L32	YP 177635.1	-
39980	B06	217	Rv0909	hypothetical protein Rv0909	NP 215424.1	2
39983	B07	220	Rv3250c	rubredoxin RubB	NP 217767.1	2
10009	B08	220	Rv2307D	hypothetical protein Rv2307D	YP 177667.1	-
39984	B09	223	Rv0717	30S ribosomal protein S14	YP 177747.1	2
39985	B10	223	Rv1116	hypothetical protein Rv1116	NP 215632.1	-
10055	B11	223	Rv0755A	transposase	YP 177633.1	-
39990	C01	229	Rv1799	lipoprotein LppT	NP 216315.1	1.969432314
39991	C02	229	Rv1950c	hypothetical protein Rv1950c	NP 216466.1	2
39996	C03	229	Rv3643	hypothetical protein Rv3643	NP 218160.1	1.602620087
10127	C04	229	Rv2307A	glycine rich protein	YP 177665.1	-
10061	C05	229	Rv1473A	transcriptional regulatory protein	YP 177644.1	-
10014	C06	229	Rv3770B	hypothetical protein Rv3770c	NP 218287.1	2.807860262
39998	C07	232	Rv1642	50S ribosomal protein L35	NP 216158.1	1.788793103
40000	C08	232	Rv2255c	hypothetical protein Rv2255c	NP 216771.1	2
39999	C09	232	Rv2111c	hypothetical protein Rv2111c	NP 216627.1	2
40002	C10	232	Rv3642c	hypothetical protein Rv3642c	NP 218159.1	2
40001	C11	232	Rv2283	hypothetical protein Rv2283	NP 216799.1	2
40006	C12	235	Rv3857c	hypothetical protein Rv3857c	NP 218374.1	2
40003	D01	235	Rv0722	50S ribosomal protein L30	NP 215236.1	2
40007	D02	241	Rv1786	ferredoxin	NP 216302.1	2
40008	D03	241	Rv2128	transmembrane protein	NP 216644.1	2
10036	D04	241	Rv2401A	hypothetical protein Rv2401A	YP 177670.1	1.65560166
40011	D05	244	Rv0416	sulfur carrier protein ThiS	NP 214930.1	2.454918033
40019	D06	244	Rv3656c	hypothetical protein Rv3656c	NP 218173.1	2.348360656
40022	D07	247	Rv2304c	hypothetical protein Rv2304c	NP 216820.1	2
40023	D08	250	Rv0031	remnant of A transposase	NP 214545.1	2
40026	D09	250	Rv3745c	hypothetical protein Rv3745c	NP 218262.1	2
9960	D11	250	Rv1498A	methyltransferase	NP 216014.1	2.632

Clone	Well Position	ORF Length	Locus ID	Description	Accession Number	Average Depth of Coverage
40027	D12	253	Rv0379	protein transport protein	YP_177722.1	2
40031	E01	253	Rv1952	hypothetical protein Rv1952	NP_216468.1	2.498023715
40038	E02	253	Rv3751	integrase	NP_218268.1	2
9976	E03	253	Rv1765A	hypothetical protein Rv1765c	NP_216281.1	3.47826087
40043	E04	256	Rv2401	hypothetical protein Rv2401	NP_216917.2	2
40040	E05	256	Rv1721c	hypothetical protein Rv1721c	NP_216237.2	2
40039	E06	256	Rv1560	hypothetical protein Rv1560	NP_216076.1	2
40053	E07	259	Rv3462c	translation initiation factor IF-1	NP_217979.1	2
40044	E08	259	Rv0300	hypothetical protein Rv0300	NP_214814.1	2.44015444
40054	E09	262	Rv0325	hypothetical protein Rv0325	NP_214839.1	2
40059	E10	262	Rv2292c	hypothetical protein Rv2292c	NP_216808.1	2.393129771
10017	E11	262	Rv2530A	hypothetical protein Rv2530c	NP_217046.1	-
40065	E12	265	Rv2520c	hypothetical protein Rv2520c	NP_217036.1	2.396226415
40063	F01	265	Rv1545	hypothetical protein Rv1545	NP_216061.1	2
40068	F02	265	Rv2660c	hypothetical protein Rv2660c	NP_217176.1	2
40062	F03	265	Rv1211	hypothetical protein Rv1211	NP_215727.1	2
40067	F04	265	Rv2526	hypothetical protein Rv2526	NP_217042.1	2.411320755
10066	F05	265	Rv0609A	hypothetical protein Rv0609A	YP_177628.1	1.754716981
40071	F07	268	Rv2132	hypothetical protein Rv2132	NP_216648.1	2
10086	F08	268	Rv1489A	hypothetical protein Rv1489	YP_177645.1	1.757462687
40077	F09	271	Rv3739c	PPE family protein	YP_178010.1	2
40073	F10	271	Rv0239	hypothetical protein Rv0239	NP_214753.1	1.79704797
40074	F11	271	Rv0709	50S ribosomal protein L29	NP_215223.1	2
10104	F12	271	Rv2063	hypothetical protein Rv2063	YP_177657.1	2.597785978
40086	G01	274	Rv1535	hypothetical protein Rv1535	NP_216051.1	2
40084	G02	274	Rv1055	hypothetical protein Rv1055	NP_215571.2	2.755474453
40082	G03	274	Rv0599c	hypothetical protein Rv0599c	NP_215113.1	1.981751825
40085	G04	274	Rv1134	hypothetical protein Rv1134	NP_215650.1	2.270072993
40087	G05	274	Rv2058c	50S ribosomal protein L28	NP_216574.1	2
10038	G06	274	Rv0500A	hypothetical protein Rv0500A	YP_177624.1	2.448905109
40089	G07	277	Rv0460	hypothetical protein Rv0460	NP_214974.1	2
40091	G08	277	Rv1590	hypothetical protein Rv1590	NP_216106.1	1.63898917
9945	G09	277	Rv0787A	phosphoribosylformylglycinamide synthase subunit PurS	YP_177755.1	1.815884477
40099	G10	280	Rv2302	hypothetical protein Rv2302	NP_216818.1	1.642857143
40101	G11	280	Rv2908c	hypothetical protein Rv2908c	NP_217424.1	2.439285714
40096	G12	280	Rv1734c	hypothetical protein Rv1734c	NP_216250.1	2
40097	H01	280	Rv2009	hypothetical protein Rv2009	NP_216525.1	2
40095	H02	280	Rv1298	50S ribosomal protein L31	NP_215814.1	2
40100	H03	280	Rv2635	hypothetical protein Rv2635	NP_217151.1	2
40094	H04	280	Rv0615	integral membrane protein	NP_215129.1	2
10042	H05	280	Rv3724A	cutinase precursor	YP_178007.1	1.628571429
40110	H06	283	Rv1305	F0F1 ATP synthase subunit C	NP_215821.1	2
40107	H07	283	Rv0660c	hypothetical protein Rv0660c	NP_215174.1	2.745583039
40111	H08	283	Rv2550c	hypothetical protein Rv2550c	NP_217066.1	2
40125	H09	286	Rv3374	enoyl-CoA hydratase	YP_177966.1	2
40124	H10	286	Rv2960c	hypothetical protein Rv2960c	NP_217476.1	2.374125874
40123	H11	286	Rv2722	hypothetical protein Rv2722	NP_217238.1	1.629370629
40121	H12	286	Rv2708c	hypothetical protein Rv2708c	NP_217224.1	2

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