

***Mycobacterium tuberculosis* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 14**

Catalog No. NR-19650

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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 *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-19650.

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-19650 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: *E. coli*, strain DH10B-T1 clones should be grown at 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: *Mycobacterium tuberculosis* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 14, NR-19650.”

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.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

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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 14 (ZMTLD)¹

Clone	Well Position	ORF Length	Locus ID	Description	Accession Number	Average Depth of Coverage
40472	A01	385	Rv3188	hypothetical protein Rv3188	NP_217704.1	2
40468	A02	385	Rv1670	hypothetical protein Rv1670	NP_216186.1	2.2
40464	A04	385	Rv0961	integral membrane protein	NP_215476.1	2
40470	A05	385	Rv2244	acyl carrier protein	NP_216760.1	2
40471	A06	385	Rv2588c	preprotein translocase subunit YajC	NP_217104.1	2
40477	A07	388	Rv0520	hypothetical protein Rv0520	NP_215034.1	2
40480	A08	388	Rv3862c	transcriptional regulatory protein WHIB-like WHIB6	NP_218379.1	2
40478	A09	388	Rv1717	hypothetical protein Rv1717	NP_216233.1	2
40479	A10	388	Rv1948c	hypothetical protein Rv1948c	NP_216464.1	2
40476	A11	388	Rv0454	hypothetical protein Rv0454	NP_214968.1	2
40481	A12	388	Rv3914	thioredoxin trxC (TRX) (MPT46)	NP_218431.1	3.208762887
40488	B01	391	Rv2767c	hypothetical protein Rv2767c	NP_217283.1	2
40483	B02	391	Rv1440	preprotein translocase subunit SecG	NP_215956.2	2
40498	B03	394	Rv3073c	hypothetical protein Rv3073c	NP_217589.1	2
40491	B04	394	Rv1810	hypothetical protein Rv1810	NP_216326.1	2
40497	B05	394	Rv2801c	hypothetical protein Rv2801c	NP_217317.1	2
40495	B06	394	Rv2204c	hypothetical protein Rv2204c	NP_216720.1	2.583756345
40494	B07	394	Rv2144c	transmembrane protein	NP_216660.1	2
40492	B08	394	Rv1889c	hypothetical protein Rv1889c	NP_216405.1	2
40493	B09	394	Rv1994c	transcriptional regulatory protein	NP_216510.1	2
40504	B10	397	Rv2640c	ArsR family transcriptional regulator	NP_217156.1	1.914357683
40499	B11	397	Rv0967	hypothetical protein Rv0967	NP_215482.1	2
40505	B12	397	Rv3178	hypothetical protein Rv3178	NP_217694.1	2.586901763
40510	C01	397	Rv3845	hypothetical protein Rv3845	NP_218362.1	2.652392947
40506	C02	397	Rv3748	hypothetical protein Rv3748	NP_218265.1	2
40518	C03	400	Rv1342c	hypothetical protein Rv1342c	YP_177800.1	2.1175
40520	C05	400	Rv2628	hypothetical protein Rv2628	NP_217144.1	2
40528	C07	400	Rv3744	transcriptional regulatory protein ArsR-family	NP_218261.1	3.19
40519	C08	400	Rv1669	hypothetical protein Rv1669	NP_216185.1	2
40516	C09	400	Rv1171	hypothetical protein Rv1171	NP_215687.2	2.595
10034	C11	400	Rv1508A	hypothetical protein Rv1508c	NP_216024.1	3.01
40534	C12	403	Rv1824	hypothetical protein Rv1824	NP_216340.1	2
40537	D01	403	Rv3789	integral membrane protein	NP_218306.1	2
40531	D02	403	Rv1152	transcriptional regulatory protein	NP_215668.1	3.29528536
40552	D03	406	Rv2063c			2.581280788
40539	D04	406	Rv0123	hypothetical protein Rv0123	NP_214637.1	2

Clone	Well Position	ORF Length	Locus ID	Description	Accession Number	Average Depth of Coverage
40555	D05	406	Rv2647	hypothetical protein Rv2647	NP_217163.1	2
40540	D06	406	Rv0397	13E12 repeat family protein	NP_214911.1	2
40550	D07	406	Rv1209	hypothetical protein Rv1209	NP_215725.1	2.586206897
40556	D08	406	Rv2694c	hypothetical protein Rv2694c	NP_217210.1	2
40557	D09	406	Rv3360	hypothetical protein Rv3360	NP_217877.1	2
40558	D10	406	Rv3363c	hypothetical protein Rv3363c	NP_217880.1	2
40541	D11	406	Rv0521c	hypothetical protein Rv0521	YP_177626.1	2
40538	D12	406	Rv0122	hypothetical protein Rv0122	NP_214636.1	2
40554	E01	406	Rv2272	transmembrane protein	NP_216788.1	3.221674877
40547	E02	406	Rv0720	50S ribosomal protein L18	NP_215234.1	2.669950739
40548	E03	406	Rv1137c	hypothetical protein Rv1137c	NP_215653.1	2
40559	E04	406	Rv3687c	anti-anti-sigma factor RSFB (anti-sigma factor antagonist) (regulator of sigma F B)	NP_218204.1	2
40564	E05	409	Rv1471	thioredoxin TRXB1	YP_177815.1	3.273838631
40562	E06	409	Rv1352	hypothetical protein Rv1352	NP_215868.1	2
40566	E07	409	Rv2446c	integral membrane protein	NP_216962.1	2.836185819
40568	E08	409	Rv3352c	oxidoreductase	NP_217869.1	2.589242054
40575	E09	412	Rv1470	thioredoxin TRXA	NP_215986.1	2
40581	E10	412	Rv3460c	30S ribosomal protein S13	NP_217977.1	2
40579	E11	412	Rv2822c	hypothetical protein Rv2822c	NP_217338.1	2.650485437
40573	E12	412	Rv1114	hypothetical protein Rv1114	NP_215630.1	2
40574	F01	412	Rv1269c	hypothetical protein Rv1269c	NP_215785.1	2
40572	F02	412	Rv0682	30S ribosomal protein S12	NP_215196.1	2
40569	F03	412	Rv0333	hypothetical protein Rv0333	NP_214847.1	2
40580	F04	412	Rv3046c	hypothetical protein Rv3046c	NP_217562.1	2
40586	F05	415	Rv1974	hypothetical protein Rv1974	NP_216490.1	2
40590	F06	415	Rv3289c	transmembrane protein	NP_217806.1	2
40595	F07	415	Rv3675	hypothetical protein Rv3675	NP_218192.1	2
40584	F08	415	Rv1555	fumarate reductase subunit D	NP_216071.1	2.178313253
40589	F09	415	Rv2548	hypothetical protein Rv2548	NP_217064.1	1.985542169
40596	F10	415	Rv3923c	ribonuclease P	NP_218440.2	2.937349398
40585	F11	415	Rv1943c	hypothetical protein Rv1943c	NP_216459.1	2
40604	F12	418	Rv2420c	hypothetical protein Rv2420c	NP_216936.1	2
40606	G02	418	Rv3070	camphor resistance protein CrcB	NP_217586.1	-
40605	G03	418	Rv2642	ArsR family transcriptional regulator	NP_217158.1	2.980861244
40599	G04	418	Rv0353	probable heat shock protein transcriptional repressor HspR	NP_214867.1	2
40598	G05	418	Rv0140	hypothetical protein Rv0140	NP_214654.1	2.655502392
40600	G06	418	Rv1343c	lipoprotein LprD	NP_215859.1	2
40603	G07	418	Rv1924c	hypothetical protein Rv1924c	NP_216440.1	2
40612	G09	421	Rv0960	hypothetical protein Rv0960	NP_215475.1	3.163895487
40610	G10	421	Rv0656c	hypothetical protein Rv0656c	NP_215170.1	2
40618	G11	421	Rv3747	hypothetical protein Rv3747	NP_218264.1	1.895486936
40609	G12	421	Rv0611c	hypothetical protein Rv0611c	NP_215125.1	2.190023753
40614	H01	421	Rv1690	lipoprotein LprJ	NP_216206.1	2.593824228
40619	H02	424	Rv0313	hypothetical protein Rv0313	NP_214827.1	2
40623	H03	424	Rv1365c	anti-anti-sigma factor RSFA (anti-sigma factor antagonist) (regulator of sigma F A)	NP_215881.1	2.570754717
40628	H04	424	Rv3145	NADH dehydrogenase subunit A	NP_217661.1	2.655660377
40624	H06	424	Rv2331	hypothetical protein Rv2331	NP_216847.1	2
40622	H07	424	Rv0607	hypothetical protein Rv0607	NP_215121.1	2
40625	H08	424	Rv2470	globin GlbO	NP_216986.1	2
40635	H11	427	Rv0807	hypothetical protein Rv0807	NP_215322.1	1.592505855

Clone	Well Position	ORF Length	Locus ID	Description	Accession Number	Average Depth of Coverage
40653	H12	427	Rv2961	transposase	NP_217477.1	2

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