

***Rickettsia prowazekii*, Strain Madrid E, Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 3**

Catalog No. NR-19451

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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 *Rickettsia prowazekii* (*R. prowazekii*), strain Madrid E, Gateway® clone set consists of approximately 750 sequence validated clones from *R. prowazekii*, strain Madrid E, 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 sequence was validated by full length sequencing of each 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-19451.

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-19451 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 24 hours.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Rickettsia prowazekii*, Strain Madrid E, Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 3, NR-19451."

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.

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References:

1. Andersson, S. G., et al. "The Genome Sequence of *Rickettsia prowazekii* and the Origin of Mitochondria." *Nature* 396 (1998): 133-140. PubMed: 9823893.

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Table 1: *Rickettsia prowazekii*, Strain Madrid E, Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 3 (ZRPAC)¹

Clone	Well Position	Locus ID	Description	ORF Length	Accession Number	Average Depth of Coverage
45075	A01	RP611	ribonuclease P	400	NP_220979.1	2
45122	A02	RP649	50S ribosomal protein L14	403	NP_221013.1	2
45171	A03	RP357	NADH dehydrogenase subunit A	406	NP_220741.1	2.566502
45279	A04	RP600	hypothetical protein RP600	406	NP_220968.1	2
45006	A05	RP126	succinate dehydrogenase cytochrome B560 subunit (sdhC)	409	NP_220518.1	2
44979	A06	RP127	succinate dehydrogenase hydrophobic membrane anchor protein (sdhD)	412	NP_220519.1	2
45282	A07	RP139	50S ribosomal protein L7/L12	412	NP_220530.1	2
45186	A08	RP394	hypothetical protein RP394	412	NP_220775.1	2
45014	A09	RP637	30S ribosomal protein S13	412	NP_221001.1	1.907767
45199	A10	RP502	hypothetical protein RP502	415	NP_220878.1	2
45255	A11	RP577	4'-phosphopantetheinyl transferase	415	NP_220948.1	2
45162	A12	RP051	hypothetical protein RP051	418	NP_220445.1	2
45110	B01	RP578	DNA-directed RNA polymerase subunit omega	418	NP_220949.1	2
45182	B02	RP636	30S ribosomal protein S11	418	NP_221000.1	2
45202	B03	RP192	hypothetical protein RP192	421	NP_220581.1	2
45106	B04	RP435	ribosome-binding factor A	421	NP_220816.1	2
45190	B05	RP588	cytochrome c-type biogenesis protein CcmE	421	NP_220957.1	2
44990	B06	RP130	30S ribosomal protein S12	424	NP_220522.1	2
45210	B07	RP568	hypothetical protein RP568	424	NP_220940.1	2
45002	B08	RP002	thioredoxin (trxA)	427	NP_220398.1	1.990632
45207	B09	RP497	hypothetical protein RP497	427	NP_220873.1	2
44967	B10	RP485	scaffold protein	430	NP_220862.1	1.990698
45239	B11	RP645	30S ribosomal protein S8	433	NP_221009.1	2
45307	B12	RP862	NAD(P) transhydrogenase subunit alpha (pntAB)	433	NP_221210.1	2
45039	C01	RP549		442	CAA14998.1	2.99095
45178	C02	RP634	50S ribosomal protein L17	445	NP_220998.1	2
45035	C03	RP652	50S ribosomal protein L16	445	NP_221016.1	2.597753
45022	C04	RP225	hypothetical protein RP225	448	NP_220611.1	2
45335	C05	RP112	50S ribosomal protein L19	451	NP_220504.1	2
45082	C06	RP178	hypothetical protein RP178	451	NP_220568.1	2
45026	C07	RP201	co-chaperone HscB	454	CAA14666.1	2
45286	C08	RP055	nucleoside diphosphate kinase	457	NP_220449.1	2

Clone	Well Position	Locus ID	Description	ORF Length	Accession Number	Average Depth of Coverage
44994	C09	RP436	hypothetical protein RP436	460	NP_220817.1	2
45230	C10	RP082	hypothetical protein RP082	466	NP_220475.1	1.88412
45258	C11	RP310	TOLR protein (tolR)	466	NP_220694.1	2
45310	C12	RP517	sigma(54) modulation protein	466	NP_220893.1	2
45114	D01	RP806	hypothetical protein RP806	466	NP_221156.1	2
45219	D02	RP816	DnaK suppressor protein	466	NP_221165.1	2
45330	D03	RP013	hypothetical protein RP013	469	NP_220408.1	2
44970	D04	RP144	hypothetical protein RP144	469	NP_220535.1	2
45242	D05	RP299	ribose-5-phosphate isomerase B	469	NP_220683.1	2
45078	D06	RP008	(3R)-hydroxymyristoyl-ACP dehydratase	472	NP_220404.1	2
45246	D07	RP136	50S ribosomal protein L11	472	NP_220527.1	2
45234	D08	RP507	hypothetical protein RP507	472	NP_220883.1	2
45102	D09	RP883	hypothetical protein RP883	472	NP_221229.1	2
45322	D10	RP166	hypothetical protein RP166	475	NP_220556.1	2
45214	D11	RP285	putative monovalent cation/H ⁺ antiporter subunit C	475	NP_220669.1	2
45174	D12	RP196	hypothetical protein RP196	481	NP_220584.1	2
45266	E01	RP399	deoxyuridine 5'-triphosphate nucleotidohydrolase	481	NP_220780.1	2
45010	E02	RP722	hypothetical protein RP722	481	NP_221077.1	2
45130	E03	RP831	hypothetical protein RP831	481	NP_221180.1	2
45326	E04	RP177	hypothetical protein RP177	484	NP_220567.1	1.989669
45070	E05	RP570	cell division protein MraZ	484	NP_220942.1	2
45054	E06	RP724	hypothetical protein RP724	484	NP_221079.1	2
44982	E07	RP470	hypothetical protein RP470	487	NP_220849.1	2
45275	E08	RP640	50S ribosomal protein L15	487	NP_221004.1	2
45046	E09	RP070	preprotein translocase subunit SecB	493	NP_220464.1	2
45062	E10	RP269	hypothetical protein RP269	493	NP_220654.1	2
45139	E11	RP430	SsrA-binding protein	493	NP_220811.1	3.985801
44962	E12	RP726	ribonuclease H	493	NP_221081.1	2
44986	F01	RP836	single-stranded DNA-binding protein	493	NP_221185.1	2
45088	F02	RP774	hypothetical protein RP774	496	NP_221125.1	3.16129
44998	F03	RP712	hypothetical protein RP712	499	NP_221069.1	2
45142	F04	RP233	50S ribosomal protein L13	502	NP_220619.1	2
45263	F05	RP359	hypothetical protein RP359	502	NP_220743.1	2
45223	F06	RP771	peptidoglycan-associated lipoprotein precursor (pal)	502	NP_221122.1	2
45314	F07	RP330	Holliday junction resolvase-like protein	505	NP_220713.1	2
45030	F08	RP188	hypothetical protein RP188	508	NP_220577.1	2
45166	F09	RP290	VIRB9 protein precursor (virB9)	508	NP_220674.1	2
45058	F10	RP707	hypothetical protein RP707	508	NP_221066.1	1.972441
45270	F11	RP021	F0F1 ATP synthase subunit B'	511	NP_220415.1	2
45090	F12	RP727	hypothetical protein RP727	514	NP_221082.1	3.992233
45094	G01	RP795	NADH dehydrogenase subunit I	514	NP_221145.1	1.92607
44974	G02	RP818	hypothetical protein RP818	514	NP_221167.1	2
45146	G03	RP833	17 kDa common-antigen	514	NP_221182.1	2
45298	G04	RP131	30S ribosomal protein S7	517	NP_220523.1	2
45154	G05	RP149	hypothetical protein RP149	520	NP_220540.1	2
45158	G06	RP234	30S ribosomal protein S9	520	NP_220620.1	1.992308
45227	G07	RP236	dinucleoside polyphosphate hydrolase	520	NP_220621.1	2.361538
45018	G08	RP311	hypothetical protein RP311	520	NP_220695.1	2

Clone	Well Position	Locus ID	Description	ORF Length	Accession Number	Average Depth of Coverage
45134	G09	RP861	transcription elongation factor GreA	523	NP_221209.1	1.992352
44960	G10	RP252	hypothetical protein RP252	526	NP_220637.1	2.562738
45043	G11	RP273	HEAT shock protein (hsp22)	526	NP_220658.1	2
45152	G12	RP458	hypothetical protein RP458	526	NP_220838.1	3.146388
45302	H01	RP754	hypothetical protein RP754	526	NP_221106.1	1.992395
45294	H02	RP713	hypothetical protein RP713	529	NP_221070.1	2
45292	H03	RP084	hypothetical protein RP084	532	NP_220477.1	3.180451
45195	H04	RP348	16S rRNA-processing protein RimM	532	NP_220731.1	2
45318	H05	RP872	DNA polymerase III subunit chi	532	CAA15296.1	2
45050	H06	RP020	F0F1 ATP synthase subunit B	538	NP_220414.1	2
45126	H07	RP420	hypothetical protein RP420	538	NP_220801.1	1.923792
44954	H08	RP809	hypothetical protein RP809	538	NP_221159.1	2
45250	H09	RP119	Holliday junction resolvase	544	CAA14588.1	2
45098	H10	RP138	50S ribosomal protein L10	544	NP_220529.1	3.933824
45119	H11	RP041	50S ribosomal protein L9	550	NP_220435.1	2
45666	H12	RP370	hypothetical protein RP370	553	NP_220753.1	2

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