

Helicobacter pylori Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 19

Catalog No. NR-19495

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Contributor:

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

Manufacturer:

BEI Resources

Product Description:

The *Helicobacter pylori* (*H. pylori*) Gateway® clone set consists of approximately 1600 sequence validated clones from *H. pylori*, strain 26695 and strain J99 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.

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.

Note: 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 cannot confirm or validate any clone not identified on the plate information table.

Packaging/Storage:

NR-19495 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: *Helicobacter pylori* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 19, NR-19495."

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. Alm, R. A., et al. "Genomic-Sequence Comparison of

Two Unrelated Isolates of the Human Gastric Pathogen *Helicobacter pylori*." *Nature* 397 (1999): 176-180. PubMed: 9923682.

2. Jungblut, P. R., et al. "Comparative Proteome Analysis of *Helicobacter pylori*." *Mol. Microbiol.* 36 (2000): 710-725. PubMed: 10844659.
3. Tomb, J. F., et al. "The Complete Genome Sequence of the Gastric Pathogen *Helicobacter pylori*." *Nature* 388 (1997): 539-547. PubMed: 9252185.

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Table 1: *Helicobacter pylori* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 19 (ZHPAT)¹

Strain	Clone	Well Position	Locus ID	Description	ORF Length	Accession Number ²	Average Depth of Coverage
J99	63183	A01	NT01HP0046	anthranilate synthase component i	142	-	2
J99	63187	A02	NT01HP1611	hypothetical protein	127	-	2
J99	63190	A03	JHP1393	hypothetical protein jhp1393	115	NP_224111.1	-
J99	63195	A04	NT01HP0734	hypothetical protein	136	-	-
J99	63202	A05	NT01HP1185	hypothetical protein	139	-	-
J99	63206	A06	NT01HP0056	type II DNA modification enzyme	136	-	1.595588
J99	63214	A07	NT01HP1230	lipoprotein, putative	148	-	2
J99	63218	A08	NT01HP0673	hypothetical protein	130	-	-
J99	63223	A09	NT01HP1252	hypothetical protein	139	-	-
J99	63226	A10	NT01HP0493	hypothetical protein	136	-	-
J99	63235	A11	NT01HP0906	hypothetical protein	145	-	-
J99	63238	A12	NT01HP1507	hypothetical protein	130	-	2
J99	63242	B01	NT01HP1122	hypothetical protein	139	-	-
J99	63246	B02	NT01HP0721	hypothetical protein	142	-	-
J99	63251	B03	NT01HP1250	hypothetical protein	133	-	-
J99	63255	B04	NT01HP0786	hypothetical protein	136	-	2
J99	63271	B05	JHP0937	hypothetical protein jhp0937	1300	NP_223654.1	1.389231
J99	63274	B06	JHP0756	type II DNA modification enzyme (methyltransferase)	853	NP_223474.1	2
J99	63279	B07	JHP0917	DNA transfer protein	1462	NP_223635.1	4.21067
J99	63283	B08	JHP0924	hypothetical protein jhp0924	841	NP_223641.1	2
J99	63286	B09	JHP0630	type II restriction enzyme	907	NP_223348.1	1.974642
J99	63290	B10	JHP0947	hypothetical protein jhp0947	1435	NP_223664.1	4.1777
J99	63295	B11	JHP0934	hypothetical protein jhp0934	1054	NP_223651.1	3.152751
J99	63303	B12	JHP0703	hypothetical protein jhp0703	895	NP_223421.1	3.712849
J99	63311	C01	JHP1296	type III DNA modification enzyme (methyltransferase)	1897	NP_224014.1	4.318397
J99	63318	C02	JHP0921	hypothetical protein jhp0921	1021	NP_223639.1	1.756121
J99	63322	C03	JHP1463	hypothetical protein jhp1463	1138	NP_224181.1	1.637961
J99	63331	C04	NT01HP1500	Sulfatase, putative	967	AAD06885.1	1.88728
J99	63334	C05	JHP0659	Outer membrane protein	1949	NP_223377.1	3.984094
J99	63338	C06	JHP0927	hypothetical protein jhp0927	1432	NP_223644.1	1.194134
J99	63346	C07	JHP0562	lipopolysaccharide biosynthesis protein	1033	NP_223280.1	1.60213
J99	63350	C08	JHP0926	hypothetical protein jhp0926	1051	NP_223643.1	1.521408

Strain	Clone	Well Position	Locus ID	Description	ORF Length	Accession Number ²	Average Depth of Coverage
J99	63354	C09	NT01HP1064	hypothetical protein	844	-	2
J99	63362	C10	JHP0923	putative	931	-	1.92696
J99	63370	C11	JHP0585	3-hydroxyacid dehydrogenase	892	NP_223303.1	1.994395
J99	63374	C12	JHP0045	type II DNA modification enzyme (methyltransferase)	1066	NP_222767.1	1.73546
J99	63379	D01	JHP0726	type I restriction enzyme (specificity subunit)	1399	NP_223444.1	4.283774
J99	63383	D02	JHP0165	hypothetical protein jhp0165	1255	NP_222886.1	4.584861
J99	63386	D03	JHP0629	type II DNA modification enzyme (methyltransferase)	1249	NP_223347.1	1.488391
J99	63391	D04	JHP0820	lipopolysaccharide biosynthesis protein	1156	NP_223538.1	4.675606
J99	63395	D05	JHP0949	hypothetical protein jhp0949	1297	NP_223666.1	1.388589

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

²Not all genes were annotated at the time this document was produced (NA – gene accession number not available).