

***Helicobacter pylori* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 10**

**Catalog No. NR-19486**

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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:**

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-19486 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 10, NR-19486.”

**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](http://www.cdc.gov/biosafety/publications/bmbl5/index.htm).

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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.

**References:**

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

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**Table 1: *Helicobacter pylori* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 10 (ZHPAJ)<sup>1</sup>**

Strain	Clone	Well Position	Locus ID	Description	ORF Length	Accession Number	Average Depth of Coverage
26695	59874	A01	HP0100	conserved hypothetical protein	1141	<a href="#">NP_206900.1</a>	1.54163
26695	59879	A02	HP0216	conserved hypothetical protein	1141	<a href="#">NP_207014.1</a>	4.049956
26695	59883	A03	HP1501	outer membrane protein	1201	<a href="#">NP_208292.1</a>	3.802664
26695	59901	A04	HP1332	co-chaperone and heat shock protein	1144	<a href="#">NP_208124.1</a>	2.898601
26695	59902	A05	HP1545	folypolyglutamate synthase	1219	<a href="#">NP_208336.1</a>	1.502871
26695	59906	A06	HP0434	hypothetical protein	1204	<a href="#">NP_207232.1</a>	4.562292
26695	59911	A07	HP0537	cag pathogenicity island protein	1165	<a href="#">NP_207333.1</a>	4.013734
26695	59918	A08	HP0926	conserved hypothetical protein	1180	<a href="#">NP_207718.1</a>	1.685593
26695	59922	A09	HP0416	cyclopropane fatty acid synthase	1204	<a href="#">NP_207214.1</a>	3.406146
26695	59926	A10	HP1003	hypothetical protein	1147	<a href="#">NP_207794.1</a>	1.70619
26695	59930	A11	HP0490	putative potassium channel protein, putative	1171	<a href="#">NP_207287.1</a>	1.721605
26695	59934	A12	HP0244	signal-transducing protein, histidine kinase	1180	<a href="#">NP_207042.1</a>	1.572881
26695	59942	B01	HP0770	flagellar biosynthetic protein	1111	<a href="#">NP_207563.1</a>	1.721872
26695	59950	B02	HP0867	lipid A disaccharide synthetase	1117	<a href="#">NP_207661.1</a>	1.592659
26695	59956	B03	HP1398	alanine dehydrogenase	1177	<a href="#">NP_208189.1</a>	2.330501
26695	59958	B04	HP0979	cell division protein	1192	<a href="#">NP_207770.1</a>	3.979027
26695	59967	B05	HP0228	conserved hypothetical integral membrane protein	1207	<a href="#">NP_207026.1</a>	3.917978
26695	59974	B06	HP1466	conserved hypothetical integral membrane protein	1168	<a href="#">NP_208257.1</a>	1.611301
26695	59978	B07	HP0233	conserved hypothetical protein	1207	<a href="#">NP_207031.1</a>	1.501243
26695	59982	B08	HP1079	hypothetical protein	1147	<a href="#">NP_207870.1</a>	1.710549
26695	59986	B09	HP1513	selenocysteine synthase SelA, putative	1195	<a href="#">NP_208304.1</a>	4.63431
26695	59995	B10	HP0970	nickel-cobalt-cadmium resistance protein	1114	<a href="#">NP_207761.1</a>	4.099641
26695	60006	B11	HP0220	synthesis of [Fe-S] cluster	1198	<a href="#">NP_207018.1</a>	1.677796
26695	60010	B12	HP0625	protein E	1114	<a href="#">NP_207419.1</a>	1.780969
26695	60014	C01	HP0172	molybdopterin biosynthesis protein	1210	<a href="#">NP_206971.1</a>	1.614876
26695	60026	C02	HP1153	valyl-tRNA synthetase	2659	<a href="#">NP_207944.1</a>	4.126363
26695	60035	C03	HP1222	D-lactate dehydrogenase	2881	<a href="#">NP_208014.1</a>	3.746963
26695	60058	C04	HP0846	type I restriction enzyme R protein	2635	<a href="#">NP_207639.1</a>	4.131689

Strain	Clone	Well Position	Locus ID	Description	ORF Length	Accession Number	Average Depth of Coverage
26695	60075	C05	HP0779	aconitase B	2596	<a href="#">NP_207572.1</a>	3.813174
26695	60079	C06	HP0786	preprotein translocase subunit	2632	<a href="#">NP_207579.1</a>	4.289894
26695	60114	C07	HP1400	iron(III) dicitrate transport protein	2563	<a href="#">NP_208191.1</a>	3.851736
26695	60142	C08	HP0459	virB4 homolog	2611	<a href="#">NP_207257.1</a>	3.979701
26695	60147	C09	HP0264	ATP-dependent protease binding subunit	2605	<a href="#">NP_207062.1</a>	3.766219
26695	60151	C10	HP1090	cell division protein	2611	<a href="#">NP_207881.1</a>	2.955956
26695	60166	C11	HP1371	type III restriction enzyme R protein	2941	<a href="#">NP_208162.1</a>	3.754505
26695	60178	C12	HP1553	helicase	2872	<a href="#">NP_208344.1</a>	3.844708

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