

***Vibrio cholerae* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 4**

**Catalog No. NR-19682**

This reagent is the tangible property of the U.S. Government.

**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 *Vibrio cholerae* (*V. cholerae*) Gateway® clone set consists of 46 plates which contain 3813 sequence validated clones from *V. cholerae*, strain EI Tor N16961 cloned in *Escherichia coli* (*E. coli*) DH10B-T1 cells. Each open reading frame was constructed in vector [pDONR™221](#) with a native start codon and stop codon. The library was independently cloned and sequence verified by the Harvard Institute of Proteomics. 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-19682.

**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-19682 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 1 day.

**Citation:**

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: *Vibrio cholerae* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 4, NR-19682.”

**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](http://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.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at [www.beiresources.org](http://www.beiresources.org).

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

**Use Restrictions:**

**This material is distributed for internal research, non-commercial purposes only.** This material, its product or its derivatives may not be distributed to third parties. Except as

performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

**References:**

1. Heidelberg, J. F., et al. "DNA Sequence of Both Chromosomes of the Cholera Pathogen *Vibrio cholerae*." *Nature* 406 (2000): 477-483. PubMed: 10952301.

ATCC® is a trademark of the American Type Culture Collection.



**Table 1: *Vibrio cholerae* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 4<sup>1</sup>**

Clone ID	Well Position	ORF Length	Locus ID	Symbol	Product	Accession Number
197539	A02	384	VC2340		conserved hypothetical protein	NP_231970.1
197548	A03	172	VC1835	pal	peptidoglycan-associated lipoprotein	NP_231469.1
197560	A04	191	VC1246		hypothetical protein	NP_230891.1
197578	A05	N/A	VCA0703		conserved hypothetical protein	N/A
197598	A06	58	VC1262		hypothetical protein	NP_230907.1
197610	A07	332	VC1259		conserved hypothetical protein	NP_230904.1
197621	A08	148	VC2434		conserved hypothetical protein	NP_232064.1
197631	A09	N/A	VCA0799		hypothetical protein	N/A
197640	A10	438	VC2436	tolC	outer membrane protein TolC	NP_232066.1
197657	A11	227	VC0790	citB	transcriptional regulator CitB	NP_230439.1
197686	A12	301	VC1151		conserved hypothetical protein	NP_230796.1
197532	B01	146	VC1838	tolR	tolR membrane protein	NP_231472.1
197540	B02	N/A	VCA0711	mgsA	methylglyoxal synthase	N/A
197549	B03	N/A	VCA0723	hmgA	3-hydroxy-3-methylglutaryl CoA reductase	N/A
197562	B04	N/A	VCA0789		conserved hypothetical protein	N/A
197582	B05	235	VC1815		C-factor, putative	NP_231449.1
197601	B06	N/A	VCA0778		conserved hypothetical protein	N/A
197613	B07	N/A	VCA0792	orfA	transposase OrfAB, subunit A	N/A
197622	B08	N/A	VCA0784		hypothetical protein	N/A
197632	B09	433	VC2447	eno	enolase	NP_232076.1
197641	B10	172	VC2420	fldB	flavodoxin 2	NP_232050.2
197659	B11	228	VC2441		conserved hypothetical protein	NP_232070.1
197688	B12	304	VC2324		transcriptional regulator, LysR family	NP_231955.1
197533	C01	368	VC1854	ompT	ompT protein	NP_231488.1
197541	C02	388	VC1827	manA-2	mannose-6-phosphate isomerase	NP_231461.1
197550	C03	173	VC1847	ruvC	crossover junction endodeoxyribonuclease RuvC	NP_231481.1
197564	C04	204	VC1846	ruvA	Holliday junction DNA helicase RuvA	NP_231480.1
197584	C05	241	VC2347	deoD-1	purine nucleoside phosphorylase	NP_231977.1
197602	C06	90	VC0789		hypothetical protein	NP_230438.1
197614	C07	342	VC1242	astE	succinylglutamate desuccinylase	NP_230887.1
197623	C08	N/A	VCA0806		hypothetical protein	N/A
197633	C09	178	VC0800	citX	citX protein	NP_230449.1
197643	C10	200	VC1240		alpha-ribazole-5'-phosphate phosphatase CobC, putative	NP_230885.1
197665	C11	245	VC1257	ubiG	3-demethylubiquinone-9 3-methyltransferase	NP_230902.1
197690	C12	307	VC0690		glucokinase regulatory protein-related protein	NP_230339.1
197534	D01	146	VC1820	frvA	PTS system, fructose-specific IIA component	NP_231454.1
197542	D02	155	VC1840		conserved hypothetical protein	NP_231474.1
197551	D03	N/A	VCA0704		phosphoglycerate transport system transcriptional regulatory protein PgtA	N/A
197565	D04	448	VC2349	deoA	thymidine phosphorylase	NP_231979.2
197589	D05	N/A	VCA0791	orfB	transposase OrfAB, subunit B	N/A
197603	D06	310	VC0787		transcriptional regulator, LysR family	NP_230436.1
197615	D07	129	VC1233		conserved hypothetical protein	NP_230878.1

Clone ID	Well Position	ORF Length	Locus ID	Symbol	Product	Accession Number
197625	D08	N/A	VCA0800	creA	creA protein	N/A
197634	D09	433	VC2442		pho4 family protein	NP_232071.1
197645	D10	202	VC2443		conserved hypothetical protein	NP_232072.1
197673	D11	261	VC1238	cobS	cobalamin (5'-phosphate) synthase	NP_230883.1
197692	D12	311	VC1152		hypothetical protein	NP_230797.1
197535	E01	380	VC2339		chromate resistance protein-related protein	NP_231969.1
197543	E02	404	VC1851		conserved hypothetical protein	NP_231485.1
197552	E03	N/A	VCA0716		conserved hypothetical protein	N/A
197566	E04	N/A	VCA0712	pncA	pyrazinamidase-nicotinamidase	N/A
197592	E05	35	VC1241		hypothetical protein	NP_230886.1
197605	E06	313	VC0801	citG	citG protein	NP_230450.1
197616	E07	356	VC0796	citC	citrate (pro-3S)-lyase ligase	NP_230445.1
197626	E08	404	VC1261		conserved hypothetical protein	NP_230906.1
197635	E09	179	VC1239	cobU	cobinamide kinase-cobinamide phosphate guanylyltransferase	NP_230884.1
197647	E10	208	VC2435		MutT-nudix family protein	NP_232065.1
197675	E11	272	VC2433	cpdA	cyclic AMP phosphodiesterase	NP_232063.1
197695	E12	322	VC2323		conserved hypothetical protein	NP_231954.1
197536	F01	150	VC1828		conserved hypothetical protein	NP_231462.1
197545	F02	406	VC2348	deoB	phosphopentomutase	NP_231978.1
197554	F03	187	VC1857	priC	primosomal replication protein N <sup>''</sup>	NP_231491.1
197568	F04	N/A	VCA0729		hypothetical protein	N/A
197593	F05	296	VC2422	nadC	nicotinate-nucleotide pyrophosphorylase, carboxylating	NP_232052.1
197606	F06	N/A	VCA0794		hypothetical protein	N/A
197617	F07	142	VC1253		hypothetical protein	NP_230898.1
197627	F08	N/A	VCA0793		hypothetical protein	N/A
197636	F09	433	VC2439		methyl-accepting chemotaxis protein	NP_232068.1
197649	F10	N/A	VCA0788		DnaJ-related protein	N/A
197680	F11	290	VC1140		pseudouridine synthase family 1 protein	NP_230785.1
197696	F12	43	VC2328		hypothetical protein	NP_231959.1
197537	G01	N/A	VCA0702		iron-containing alcohol dehydrogenase	N/A
197546	G02	164	VC1849	ppiB	peptidyl-prolyl cis-trans isomerase B	NP_231483.1
197556	G03	190	VC1832		hypothetical protein	NP_231466.1
197573	G04	502	VC1161		gonadoliberin III-related protein	NP_230806.1
197594	G05	36	VC0782		hypothetical protein	NP_230431.1
197607	G06	N/A	VCA0795		resolvase, putative	N/A
197618	G07	369	VC1237	cobT	nicotinate-nucleotide--dimethylbenzimidazole phosphoribosyltransferase	NP_230882.1
197629	G08	167	VC2423	pilA	fimbrial protein	NP_232053.1
197637	G09	181	VC2421	ampD	ampD protein	NP_232051.1
197653	G10	N/A	VCA0782		ABC transporter, ATP-binding protein	N/A
197681	G11	31	VC0699		hypothetical protein	NP_230348.1
197701	G12	330	VC0692	exoII	beta-hexosaminidase	NP_230341.1
197538	H01	151	VC1852		conserved hypothetical protein	NP_231486.1
197547	H02	418	VC2352		NupC family protein	NP_231982.1
197558	H03	N/A	VCA0720		guanylate cyclase-related protein	N/A
197576	H04	228	VC2346		smp protein, putative	NP_231976.1
197597	H05	299	VC1260		transcriptional regulator, AraC-XylS family	NP_230905.1
197609	H06	N/A	VCA0797		hypothetical protein	N/A
197619	H07	148	VC1236		PilB-related protein	NP_230881.1
197630	H08	421	VC0786	dadA	D-amino acid dehydrogenase, small subunit	NP_230435.1
197639	H09	195	VC2432		conserved hypothetical protein	NP_232062.1
197655	H10	N/A	VCA0798		CbbY family protein	N/A
197682	H11	299	VC1250		conserved hypothetical protein	NP_230895.1

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