

***Vibrio cholerae* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 5**

**Catalog No. NR-19683**

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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:**

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-19683.

**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-19683 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 5, NR-19683.”

**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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**References:**

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

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



**Table 1: *Vibrio cholerae* Gateway® Clones, Plate 5**

Clone ID	Well Position	ORF Length	Locus ID	Symbol	Product	Accession Number
197712	A02	113	VC0688		conserved hypothetical protein	NP_230337.1
197720	A03	118	VC0701		trp operon repressor, putative	NP_230350.1
197728	A04	N/A	VCA0694		hypothetical protein	N/A
197738	A05	182	VC1154		hypothetical protein	NP_230799.1
197748	A06	203	VC1136	hisH	amidotransferase HisH	NP_230781.1
197775	A07	257	VC2293	nqrC	NADH:ubiquinone oxidoreductase, Na translocating, gamma subunit	NP_231924.1
197791	A08	296	VC2305	ompK	outer membrane protein OmpK	NP_231936.1
197804	A09	134	VC2314		hypothetical protein	NP_231945.1
197818	A10	161	VC0657	rimI	ribosomal-protein-alanine acetyltransferase	NP_230306.1
197838	A11	N/A	VCA0665	dcuC	C4-dicarboxylate transporter, anaerobic	N/A
197958	A12	252	VC2236		hydroxyacylglutathione hydrolase GloB, putative	NP_231867.1
197703	B01	335	VC2337		transcriptional regulator, LacI family	NP_231968.1
197713	B02	357	VC1135	hisB	imidazoleglycerol-phosphate dehydratase-histidinol-phosphatase	NP_230780.1
197721	B03	379	VC1159	serC	phosphoserine aminotransferase	NP_230804.1
197729	B04	415	VC1252		competence damage protein CinA, putative	NP_230897.1
197739	B05	431	VC1133	hisD	histidinol dehydrogenase	NP_230778.1
197752	B06	210	VC1139	hisI	phosphoribosyl-ATP pyrophosphatase-phosphoribosyl-AMP cyclohydrolase	NP_230784.1
197777	B07	264	VC0673		conserved hypothetical protein	NP_230322.1
197795	B08	312	VC1114	bioC	biotin synthesis protein BioC	NP_230759.1
197805	B09	N/A	VCA0673		transcriptional regulator, LacI family	N/A
197821	B10	416	VC2297		conserved hypothetical protein	NP_231928.1
197844	B11	205	VC1127		conserved hypothetical protein	NP_230772.1
197962	B12	256	VC2256	uppS	undecaprenyl diphosphate synthase	NP_231887.1
197705	C01	N/A	VCA0685		iron(III) ABC transporter, periplasmic iron-compound-binding protein	N/A
197714	C02	N/A	VCA0677	napD	napD protein	N/A
197722	C03	131	VC1247		hypothetical protein	NP_230892.1
197731	C04	421	VC1158		hypothetical protein	NP_230803.1
197740	C05	N/A	VCA0680	napC	periplasmic nitrate reductase, cytochrome c-type protein	N/A
197756	C06	N/A	VCA0695		hypothetical protein	N/A
197781	C07	271	VC0674	lgt	prolipoprotein diacylglycerol transferase	NP_230323.1
197797	C08	365	VC0663	prfB	peptide chain release factor 2, authentic frameshift	NP_230312.1
197809	C09	368	VC2312	mltA	membrane-bound lytic murein transglycosylase A	NP_231943.1
197822	C10	175	VC1125		hypothetical protein	NP_230770.1
197846	C11	206	VC2298		lipoprotein, putative	NP_231929.1
197966	C12	260	VC1717	smtA	smtA protein	NP_231353.1
197706	D01	87	VC1146	grxA	glutaredoxin 1	NP_230791.2
197715	D02	363	VC2332		acetyltransferase, GNAT family	NP_231963.1
197723	D03	N/A	VCA0690		acetyl-CoA acetyltransferase	N/A
197732	D04	171	VC0683	lspA	lipoprotein signal peptidase	NP_230332.1
197741	D05	433	VC0792	oadB-2	oxaloacetate decarboxylase, beta subunit	NP_230441.1
197760	D06	245	VC1137	hisA	phosphoribosylformimino-5-aminoimidazole carboxamide ribotide isomerase	NP_230782.1
197783	D07	273	VC2311		HesA-MoeB-ThiF family protein	NP_231942.1
197798	D08	104	VC0666		hypothetical protein	NP_230315.1

Clone ID	Well Position	ORF Length	Locus ID	Symbol	Product	Accession Number
197813	D09	382	VC0676	ntpA	nptA protein	NP_230325.1
197825	D10	426	VC1120		conserved hypothetical protein	NP_230765.1
197848	D11	N/A	VCA0659		protein F-related protein	N/A
197968	D12	262	VC2248	lpxA	acyl-(acyl-carrier-protein)--UDP-N-acetylglucosamine O-acyltransferase	NP_231879.1
197708	E01	102	VC2326		conserved hypothetical protein	NP_231957.1
197716	E02	114	VC2336		methionyl-tRNA synthetase-related protein	NP_231967.1
197724	E03	143	VC0697		hypothetical protein	NP_230346.1
197733	E04	422	VC1147		iron-containing alcohol dehydrogenase	NP_230792.1
197742	E05	195	VC2335		hypothetical protein	NP_231966.1
197762	E06	246	VC2428		conserved hypothetical protein	NP_232077.1
197785	E07	287	VC1117	htpX	heat shock protein HtpX	NP_230762.1
197799	E08	N/A	VCA0656	cscK	fructokinase	N/A
197814	E09	N/A	VCA0652		hypothetical protein	N/A
197826	E10	179	VC1123		hypothetical protein	NP_230768.1
197852	E11	210	VC2292	nqrD	NADH:ubiquinone oxidoreductase, Na translocating, hydrophobic membrane protein NqrD	NP_231923.1
197970	E12	N/A	VCA0606	phnX	phosphonoacetaldehyde phosphonohydrolase	N/A
197709	F01	N/A	VCA0687		iron(III) ABC transporter, ATP-binding protein	N/A
197717	F02	370	VC0691		conserved hypothetical protein	NP_230340.1
197725	F03	N/A	VCA0699	glgC-2	glucose-1-phosphate adenyllyltransferase	N/A
197734	F04	N/A	VCA0679	napB	periplasmic nitrate reductase, cytochrome c-type protein	N/A
197743	F05	N/A	VCA0684	uhpC	regulatory protein UhpC	N/A
197764	F06	N/A	VCA0691		acetoacetyl-CoA reductase	N/A
197787	F07	296	VC0677	nhaR	transcriptional activator protein NhaR	NP_230326.1
197800	F08	106	VC2296	bolA	bolA protein	NP_231927.1
197815	F09	384	VC1113	bioF	8-amino-7-oxononanoate synthase	NP_230758.1
197828	F10	432	VC1122	cfa	cyclopropane-fatty-acyl-phospholipid synthase	NP_230767.1
197856	F11	221	VC0668	mutH	DNA mismatch repair protein MutH	NP_230317.1
197972	F12	272	VC1725		beta-ketoadipate enol-lactone hydrolase, putative	NP_231361.1
197710	G01	106	VC1143		conserved hypothetical protein	NP_230788.1
197718	G02	N/A	VCA0689		conserved hypothetical protein	N/A
197726	G03	144	VC0684	fkpB	peptidyl-prolyl cis-trans isomerase, FKBP-type	NP_230333.1
197736	G04	181	VC1155		response regulator	NP_230800.1
197744	G05	201	VC1150		hypothetical protein	NP_230795.1
197768	G06	257	VC1138	hisF	hisF protein (cyclase)	NP_230783.1
197789	G07	296	VC2307	panE	2-dehydropantoate 2-reductase	NP_231938.1
197801	G08	N/A	VCA0654		sucrose operon repressor ScrR, putative	N/A
197816	G09	N/A	VCA0661		peptidyl-prolyl cis-trans isomerase-related protein	N/A
197836	G10	456	VC2316	argA	N-acetylglutamate synthase	NP_231947.1
197860	G11	238	VC1115	bioD	dethiobiotin synthetase	NP_230760.1
197974	G12	N/A	VCA0620		thiosulfate sulfurtransferase SseA, putative	N/A
197711	H01	357	VC0695	aroF	phospho-2-dehydro-3-deoxyheptonate aldolase, tyr-sensitive	NP_230344.1
197719	H02	375	VC0696	tyrA	chorismate mutase-prephenate dehydrogenase	NP_230345.1
197727	H03	414	VC2330		conserved hypothetical protein	NP_231961.1
197737	H04	N/A	VCA0681		conserved hypothetical protein	N/A
197746	H05	202	VC1153		conserved hypothetical protein	NP_230798.1
197773	H06	241	VC1119		oxidoreductase, short-chain dehydrogenase-reductase family	NP_230764.1
197790	H07	N/A	VCA0670		hypothetical protein	N/A
197803	H08	N/A	VCA0671		hypothetical protein	N/A
197817	H09	404	VC2309		aminotransferase, class V	NP_231940.1
197837	H10	194	VC2302		RNA polymerase sigma-70 factor, ECF subfamily	NP_231933.1
197861	H11	240	VC0661		conserved hypothetical protein	NP_230310.1