

***Vibrio cholerae* Gateway® Clone Set, Recombinant in *Escherichia coli*, Plate 21**

Catalog No. NR-19699

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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.

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-19699 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 21, NR-19699.”

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.

Disclaimers:

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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.

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Table 1: *Vibrio cholerae* Gateway® Clones, Plate 21

Clone ID	Well Position	ORF Length	Locus ID	Symbol	Product	Accession Number
198094	A02	305	VC0589		ABC transporter, ATP-binding protein	NP_230239.1
198110	A03	368	VC1050		response regulator	NP_230695.1
198136	A04	512	VC2224		GGDEF family protein	NP_231855.1
200332	A05	414	VC1644		hypothetical protein	NP_231281.1
200348	A06	N/A	VCA0864		methyl-accepting chemotaxis protein	N/A
200364	A07	548	VC1649		trypsin, putative	NP_231286.1
199259	A08	N/A	VCA0459		hypothetical protein	N/A
199279	A09	269	VC0370		conserved hypothetical protein	NP_230024.1
199303	A10	N/A	VCA0472		IS5 transposase	N/A
199336	A11	149	VC0369	rplI	ribosomal protein L9	NP_230023.1
200428	A12	N/A	VCA0847		conserved hypothetical protein	N/A
198070	B01	N/A	VCA0583		hypothetical protein	N/A
198095	B02	150	VC1028	moaE	molybdenum cofactor biosynthesis protein E	NP_230673.1
198113	B03	188	VC1045		RNA polymerase sigma-70 factor, ECF subfamily	NP_230690.1
200349	B06	185	VC2524		conserved hypothetical protein	NP_232153.1
200368	B07	596	VC1643		methyl-accepting chemotaxis protein	NP_231280.1
199261	B08	196	VC2011		hypothetical protein	NP_231645.1
199281	B09	274	VC1997		hypothetical protein	NP_231631.1
199305	B10	326	VC0026		zinc-binding alcohol dehydrogenase	NP_229685.1
199337	B11	500	VC2013	ptsG	PTS system, glucose-specific IIBC component	NP_231647.1
200432	B12	449	VC1315		sensor histidine kinase	NP_230959.1
198076	C01	271	VC2210	viuB	vibriobactin utilization protein ViuB	NP_231841.1
198096	C02	321	VC2213	ompA	outer membrane protein OmpA	NP_231844.1
198114	C03	377	VC2208		hypothetical protein	NP_231839.1
198144	C04	653	VC0581		lipoprotein, putative	NP_230232.1
200350	C06	N/A	VCA0871		transcriptional regulator, GntR family	N/A
199263	C08	N/A	VCA0455		conserved hypothetical protein	N/A
199283	C09	267	VC2018	pabC	4-amino-4-deoxychorismate lyase	NP_231652.2
199307	C10	327	VC0379		NifR3-Smm1 family protein	NP_230033.1
199344	C11	158	VC0365	bfr	bacterioferritin	NP_230019.1
200434	C12	453	VC1300	sdaA-1	L-serine dehydratase 1	NP_230945.1
198080	D01	288	VC0582		conserved hypothetical protein	NP_230233.1
198097	D02	155	VC1041		phosphotyrosine protein phosphatase	NP_230686.1
198115	D03	189	VC0578		hemolysin, putative	NP_230229.1
200306	D04	323	VC1334		conserved hypothetical protein	NP_230978.1
200352	D06	487	VC1945		FAD monooxygenase, PheA-TfdB family	NP_231579.1
200372	D07	632	VC1340	prpE	prpE protein	NP_230984.1
199265	D08	200	VC0034	tpcG	thiol:disulfide interchange protein	NP_229693.1
199287	D09	280	VC0039		SpoOM-related protein	NP_229698.1
199309	D10	N/A	VCA0454	sbp	sulfate-binding protein, authentic frameshift	N/A
200436	D12	457	VC1306		conserved hypothetical protein	NP_230951.1
198082	E01	293	VC0591	panC	pantoate--beta-alanine ligase	NP_230241.1
198099	E02	158	VC0577	sspB	stringent starvation protein B	NP_230228.1

Clone ID	Well Position	ORF Length	Locus ID	Symbol	Product	Accession Number
198118	E03	N/A	VCA0281		integrase, putative	N/A
200343	E05	160	VC2498		conserved hypothetical protein	NP_232127.1
200373	E07	252	VC1935		CDP-diacylglycerol--glycerol-3-phosphate 3-phosphatidyltransferase-related protein	NP_231569.1
199269	E08	N/A	VCA0457		hypothetical protein	N/A
199289	E09	N/A	VCA0458		hypothetical protein	N/A
199311	E10	330	VC0021	glyQ	glycyl-tRNA synthetase, alpha chain	NP_229680.1
200386	E11	N/A	VCA0859		oxidoreductase, aldo-keto reductase 2 family	N/A
200437	E12	458	VC1303	pabB	para-aminobenzoate synthase, component I	NP_230948.1
198083	F01	N/A	VCA0571		hypothetical protein	N/A
198100	F02	N/A	VCA0282		IS5 transposase	N/A
198121	F03	N/A	VCA0580		conserved hypothetical protein	N/A
200344	F05	458	VC2507		conserved hypothetical protein	NP_232136.1
200374	F07	637	VC1647		conserved hypothetical protein	NP_231284.1
199271	F08	221	VC0381		hypothetical protein	NP_230035.1
199293	F09	296	VC2001		conserved hypothetical protein	NP_231635.1
199313	F10	331	VC2000	gapA-1	glyceraldehyde 3-phosphate dehydrogenase	NP_231634.1
200394	F11	N/A	VCA0835		conserved hypothetical protein	N/A
200439	F12	458	VC1631		conserved hypothetical protein	NP_231268.1
198090	G01	298	VC2220		conserved hypothetical protein	NP_231851.1
198104	G02	334	VC1024	moaA	molybdenum cofactor biosynthesis protein A	NP_230669.1
198127	G03	197	VC0573	petA	ubiquinol--cytochrome c reductase, iron-sulfur subunit	NP_230224.1
200346	G05	465	VC1342		MutT-nudix family protein	NP_230986.1
200360	G06	514	VC1327	mgIA	galactoside ABC transporter, ATP-binding protein	NP_230971.1
200375	G07	258	VC2519		conserved hypothetical protein	NP_232148.1
199273	G08	N/A	VCA0447		haemagglutinin associated protein	N/A
199295	G09	314	VC2006	cheV-2	chemotaxis protein CheV	NP_231640.1
199315	G10	334	VC2002		hypothetical protein	NP_231636.1
200441	G12	462	VC1639		sensor histidine kinase	NP_231276.1
198091	H01	146	VC1031		inosine monophosphate dehydrogenase-related protein	NP_230676.1
198105	H02	170	VC1025	moaB	molybdenum cofactor biosynthesis protein B	NP_230670.1
198135	H03	N/A	VCA0585		glutathione S-transferase, putative	N/A
200347	H05	183	VC1333		hypothetical protein	NP_230977.1
200362	H06	N/A	VCA0872	cydA-2	cytochrome d ubiquinol oxidase, subunit I	N/A
200376	H07	655	VC1934		GGDEF family protein	NP_231568.1
199275	H08	248	VC0010		amino acid ABC transporter, periplasmic amino acid-binding portion	NP_062594.1
199297	H09	319	VC0029	ilvE	branched-chain amino acid aminotransferase	NP_229688.1