

***Vibrio cholerae*, Strain HC-7A1 (Biovar El Tor)**

Catalog No. NR-28889

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Vibrionaceae*, *Vibrio*

Species: *Vibrio cholerae*

Serogroup: O1

Biovar: El Tor

Strain: HC-7A1

Original Source: *Vibrio cholerae* (*V. cholerae*), strain HC-7A1 is a clinical isolate collected in 2010 from a patient in Haiti.^{1,2}

Comment: The complete genome sequence of *V. cholerae*, strain HC-7A1 is available (GenBank: [AGVA00000000](https://www.ncbi.nlm.nih.gov/GenBank/AGVA00000000)).

V. cholerae is a natural inhabitant of warm aquatic environments and the causative agent of the diarrheal disease cholera. More than 200 O-antigen serogroups have been identified but only O1 and more recently O139 are known to cause epidemic and pandemic cholera.³ Occasionally, there are cholera outbreaks that result from non-O1 and non-O139 serogroups. Cholera has a high lethality if left untreated, and millions have died in the seven pandemics that have occurred since 1817.

V. cholerae colonizes the mucosal surface of the small intestines of humans, the only known animal host.⁴ Cholera toxin, the toxin-coregulated pilus (TCP) and the central regulatory protein (ToxR) are recognized as significant factors in the pathogenicity of toxigenic strains of *V. cholerae* serogroups O1 and O139.⁵

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in Tryptic Soy broth supplemented with 10% glycerol.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

Packaging/Storage:

NR-28889 was packaged aseptically in cryovials. The product is provided frozen and should be stored at -60°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:

Tryptic Soy broth or Brain Heart Infusion broth or equivalent
Tryptic Soy agar with 5% defibrinated sheep blood or Brain Heart Infusion agar or equivalent

Incubation:

Temperature: 37°C

Atmosphere: Aerobic

Propagation:

1. Keep vial frozen until ready for use, then thaw.
2. Transfer the entire thawed aliquot into a single tube of broth.
3. Use several drops of the suspension to inoculate an agar slant and/or plate.
4. Incubate the tube, slant and/or plate at 37°C for 24 hours.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Vibrio cholerae*, Strain HC-7A1 (Biovar El Tor), NR-28889."

Biosafety Level: 2

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.

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References:

1. Colwell, R. R., Personal Communication.
2. Hasan, N. A., et al. "Genomic Diversity of 2010 Haitian Cholera Outbreak Strains." Proc. Natl. Acad. Sci. USA 109 (2012): E2010-E2017. PubMed: 22711841.
3. Pang, B., et al. "Genetic Diversity of Toxigenic and Nontoxigenic *Vibrio cholerae* Serogroups O1 and O139 Revealed by Array-Based Comparative Genomic Hybridization." J. Bacteriol. 189 (2007): 4837-4849. PubMed: 17468246.
4. O'Shea, Y. A., et al. "Evolutionary Genetic Analysis of the Emergence of Epidemic *Vibrio cholerae* Isolates on the Basis of Comparative Nucleotide Sequence Analysis and Multilocus Virulence Gene Profiles." J. Clin. Microbiol. 42 (2004): 4657-4671. PubMed: 15472325.
5. Singh, D. V., et al. "Molecular Analysis of *Vibrio cholerae* O1, O139, Non-O1, and Non-O139 Strains: Clonal Relationships between Clinical and Environmental Isolates." Appl. Environ. Microbiol. 67 (2001): 910-921. PubMed: 11157262.

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