

***Vibrio cholerae*, Strain MO3**

**Catalog No. NR-145**

(Derived from ATCC® 51395™)

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**Contributor:**

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**Product Description:**

Bacteria Classification: *Vibrionaceae*, *Vibrio*

Species: *Vibrio cholerae*

Strain: MO3

Serogroup: O:139 (Bengal)

Original Source:<sup>1</sup> Cholera patient in Madras, India, 1992

*Vibrio cholerae* (*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.<sup>2</sup> Occasionally, there are cholera outbreaks that result from non-O1 and non-O139 serotypes. *V. cholerae* colonizes the mucosal surface of the small intestines of humans, the only known animal host.<sup>3</sup> Cholera has a high lethality if left untreated, and millions have died in the seven pandemics that have occurred since 1817.

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.<sup>4</sup>

**Material Provided:**

Each vial contains approximately 0.5 mL of bacterial culture in 0.5X 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-145 was packaged aseptically in screw-capped plastic 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 equivalent

Tryptic Soy 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 tubes and plate at 37°C for 24 hours.

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: *Vibrio cholerae*, Strain MO3, NR-145."

**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, 2007; see [www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm](http://www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm).

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**References:**

1. Nair, G. B., et al. "Characterization of Phenotypic, Serological, and Toxigenic Traits of *Vibrio cholerae* O139 Bengal." J. Clin. Microbiol. 32 (1994): 2775-2779. PubMed: 7852571.
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3. 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.
4. Singh, D. V., et al. "Molecular Analysis of *Vibrio cholerae* O1, O139, non-O1, and non-O139 Strains: Clonal Relationship between Clinical and Environmental Isolates." Appl. Environ. Microbiol. 67 (2001): 910-921. PubMed: 11157262.
5. Sinha, S., et al. "Escalating Association of *Vibrio cholerae* O139 with Cholera Outbreaks in India." J. Clin. Microbiol. 40 (2002): 2635-2637. PubMed: 12089294.
6. Bhanumathi, R., et al. "Molecular Characterization of the *Vibrio cholerae* O139 Bengal Isolated from Water and the Aquatic Plant *Eichhornia crassipes* in the River Ganga, Varanasi, India." Appl. Environ. Microbiol. 69 (2003): 2389-2394. PubMed: 12676727.
7. Faruque, S. M., M. J. Albert, and J. J. Mekalanos. "Epidemiology, Genetics, and Ecology of Toxigenic *Vibrio cholerae*." Microbiol. Mol. Biol. Rev. 62 (1998): 1301-1314. PubMed: 9841673.

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