

***Vibrio parahaemolyticus*, Strain K5278  
(Serotype O4:K12)**

**Catalog No. NR-32841**

**For research use only. Not for human use.**

**Contributor:**

U.S. Food and Drug Administration, Texas Department of Health, Alaska Department of Environmental Conservation and the New York State Department of Health

**Manufacturer:**

BEI Resources

**Product Description:**

Bacteria Classification: *Vibrionaceae*, *Vibrio*

Species: *Vibrio parahaemolyticus*

Strain: K5278

Serotype: O4:K12<sup>1</sup>

Original Source: *Vibrio parahaemolyticus* (*V. parahaemolyticus*), strain K5278 was isolated from the stool of a patient with clinical disease in Washington, USA in 2007.<sup>1</sup>

Comments: *V. parahaemolyticus*, strain K5278 was deposited as positive for *tlh* (species specific marker) and *tdh* (thermostable direct hemolysin) and *trh* (*tdh*-related hemolysin) by qPCR analysis.<sup>1</sup>

*Vibrio parahaemolyticus* (*V. parahaemolyticus*) is a halophilic, Gram-negative motile, curved-rod shaped bacterium with a single polar flagellum. It is found in estuarine and coastal waters worldwide (Spain, Asia, Russia, South America, Africa and the United States). It is the leading cause of foodborne gastroenteritis. It is usually ingested in undercooked or raw seafood.<sup>2</sup>

*V. parahaemolyticus* is serotyped on the basis of somatic (O) and capsular (K) antigens, and is classified into at least 11 O-serogroups<sup>3</sup> and over 70 K-serogroups. Certain serotypes, including O3:K6, O1:KUT, O4:K12 and O4:K68, have been reported to be more virulent<sup>2,3</sup> and are considered to be the dominant serotypes responsible for infection.

**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-32841 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 equivalent

Tryptic Soy Agar with 5% defibrinated sheep blood 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 parahaemolyticus*, Strain K5278 (Serotype O4:K12), NR-32841."

**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/bmbl5/index.htm](http://www.cdc.gov/biosafety/publications/bmbl5/index.htm).

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**References:**

1. A. DePaola, U.S. Food and Drug Administration, Division of Seafood Science and Technology, Gulf Coast Seafood Laboratories, Dauphin Island, Alabama Personal Communication
2. Jones, J. L., et al. "Biochemical, Serological, and Virulence Characterization of Clinical and Oyster *Vibrio parahaemolyticus* Isolates." *J. Clin. Microbiol.* 50 (2012): 2343-2352. PubMed: 22535979.
3. Chen, M. et al. "Development of O-Serogroup Specific PCR Assay for Detection and Identification of *Vibrio parahaemolyticus*." *Int. J. Food Microbiol.* 159 (2012): 122-129. PubMed: 23072697.

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