Product Information Sheet for NR-13225

Listeria monocytogenes, Strain J0161

Catalog No. NR-13225

For research only. Not for human use.

Contributor:
NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH

Product Description:
Bacteria Classification: *Listeriaceae, Listeria*
Species: *Listeria monocytogenes*
Strain: J0161 (FSL R2-499)
Serotype: 1/2a[1]
Original Source: *Listeria monocytogenes* (*L. monocytogenes*), strain J0161 was isolated from a case of human listeriosis linked to a multi-state outbreak from a turkey processing plant in the United States in 2000.[2,3]
Comment: *L. monocytogenes*, strain J0161 is one of a few lineage II strains associated with human listeriosis. Phenotypic and genotypic typing of *L. monocytogenes* isolates from the 2000 outbreak were consistent with the human listeriosis isolates obtained from a previous outbreak linked to the same processing plant in 1988 (serotype 1/2a, slow rhamnose fermenter phenotype, ribotype DUP-1053A and indistinguishable PFGE).[2,3] The complete genome of *L. monocytogenes*, strain J0161 has been drafted (GenBank: AARW03000000).[1] For more sequencing information, refer to the Broad Institute's Listeria Genome Project.

L. monocytogenes is a Gram-positive, facultative intracellular bacterium that is extremely tolerant of external stresses (pH 3-12, temperatures ranging from 1°C to 45°C, and high salt). *L. monocytogenes* encompasses a diversity of strains with varied virulence and pathogenic potential. There are 13 serotypes (1/2a, 1/2b, 1/2c, 3a, 3b, 3c, 4a, 4b, 4c, 4d, 4e, 5 and 7) that have been isolated from mammalian, bird, fish and shellfish species as well as environmental sources. Of these, only 3 serotypes (1/2a, 1/2b, and 4b) are frequently isolated from outbreaks of human listeriosis. The most common cause of infection is through ingestion of contaminated foods, in particular milk, meat or vegetable products. The infective dose is unknown and varies with species.[3,4]

Material Provided:
Each vial contains approximately 0.5 mL of bacterial culture in 0.5X Brain Heart Infusion Broth supplemented with 10% glycerol.

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

Packaging/Storage:
NR-13225 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 Condition:
Media:
Brain Heart Infusion Broth or equivalent
Tryptic Soy Agar with 5% Sheep Blood or equivalent
Incubation:
Temperature: 37°C
Atmosphere: Anaerobic
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: *Listeria monocytogenes*, Strain J0161, NR-13225."

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/bmbl5/bmbl5toc.htm.

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References:

1. Broad Institute *Listeria monocytogenes* Database
2. Olsen, S. J., et al. "Multistate Outbreak of *Listeria monocytogenes* Infection Linked to Delicatessen Turkey Meat." Clin. Infect. Dis. 40 (2005): 962-967. PubMed: 15824987.
3. Orsi, R. H., et al. "Short-term Genome Evolution of *Listeria monocytogenes* in a Non-Controlled Environment." BMC Genomics 9 (2008): 539. PubMed: 19014550.
4. O'Connor, L., et al. "The Characterization of *Listeria* spp. Isolated from Food Products and the Food-Processing Environment." Lett. Apple. Microbiol. 51 (2010): 490-498. PubMed: 20831655.
5. Orsi, R. H., H. C. Bakker and M. Wiedmann. "*Listeria monocytogenes* Lineages: Genomics, Evolution, Ecology, and Phenotypic Characteristics." Int. J. Med. Microbiol. (2010): epub ahead of print. PubMed: 20708964.

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