

***Listeria monocytogenes*, Strain Li 2108**

**Catalog No. NR-112**

(Derived from ATCC® 19117™)

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

**Contributor:**

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**Product Description:**

Bacteria Classification: *Listeriaceae*, *Listeria*

Species: *Listeria monocytogenes*

Strain: Li 2108

Serotype: 4d

Original Source: Sheep, U.S.A.

*Listeria monocytogenes* (*L. monocytogenes*) is a Gram-positive, facultative intracellular bacterium that is extremely tolerant of external stresses (pH 3-12, temperatures ranging from 1 to 45°C, and high salt). *L. monocytogenes* encompasses a diversity 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.<sup>1</sup>

**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-112 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

Brain Heart Infusion agar or Sheep Blood agar

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: *Listeria monocytogenes*, Strain Li 2108, NR-112.”

**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. Liu, D., et al. "Toward an Improved Laboratory Definition of *Listeria monocytogenes* Virulence." Int. J. Food Microbiol. 118 (2007): 101-115. PubMed: 17727992.
2. Hain, T., C. Steinweg, and T. Chakraborty. "Comparative and Functional Genomics of *Listeria* Spp." J. Biotechnol. 126 (2006): 37-51. PubMed: 16757050.
3. Tominaga, T. "Rapid Discrimination of *Listeria monocytogenes* Strains by Microtemperature Gradient Gel Electrophoresis." J. Clin. Microbiol. 44 (2006): 2199-2206. PubMed: 16757621.
4. Glaser, P., et al. "Comparative Genomics of *Listeria* Species." Science 294 (2001): 849-852. PubMed: 11679669.
5. Murray, E. G. D., Webb, R. A., and Schwann, M. B. R. "A Disease of Rabbits Characterized by a Large Mononuclear Leucocytosis, Caused by a Hitherto Undescribed Bacillus *Bacterium monocytogenes* (n. sp.)." J. Pathol. Bacteriol. 29 (1926): 407-439.
6. Jaradat, Z. W. and A. K. Bhunia. "Adhesion, Invasion, and Translocation Characteristics of *Listeria monocytogenes* Serotypes in Caco-2 Cell and Mouse Models." Appl. Environ. Microbiol. 69 (2003): 3640-3645. PubMed: 12788773.
7. Liu, D., et al. "Characterization of Virulent and Avirulent *Listeria monocytogenes* Strains by PCR Amplification of Putative Transcriptional Regulator and Internalin Genes." J. Med. Microbiol. 52 (2003): 1065-1070. PubMed: 14614064.
8. Bubert, A., et al. "Detection and Differentiation of *Listeria* spp. by a Single Reaction Based on Multiplex PCR." Appl. Environ. Microbiol. 65 (1999): 4688-4692. PubMed: 10508109.
9. Seeliger, H. P. R. Listeriosis. 2nd ed. Basel: Karger, 1961.

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