

Certificate of Analysis for NR-105

Listeria monocytogenes, Strain 53 XXIII

Catalog No. NR-105

(Derived from ATCC® 15313™)

Product Description: *Listeria monocytogenes* (*L. monocytogenes*) is a Gram-positive, facultative intracellular bacterium that is extremely tolerant of external stresses.

Lot¹: 3663815 Manufacturing Date: 08APR2004

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-positive rod	Gram-positive rod
Colony morphology ²	Report results	Circular, entire, convex, gray-white
Biochemical characterization: Analytical profile index (API [®] Listeria) β-hemolysis ³ Catalase activity	Consistent with <i>L. monocytogenes</i> Report results Positive	Consistent with <i>L. monocytogenes</i> Negative Positive
Viability (post-freeze) ⁴	Growth	Growth

¹NR-105 was prepared by Brain heart Infusion broth (BD 237500) culture of ATCC[®] 15313™ (Lot: 985016) for 24 hours at 37°C and aerobic atmosphere.

⁴24 hours at 37°C and aerobic atmosphere

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Date: 26 AUG 2008 **Signature:** Signature on File

Title: Technical Manager, BEI Authentication or designee

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

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800-359-7370

²24 hours at 37°C and aerobic atmosphere in Tryptic Soy Agar (BD 236950) with 5% defibrinated sheep blood

³Hemolytic activity on blood agar is generally used to distinguish *L. monocytogenes* from other *Listeria* species, however this strain of *L. monocytogenes* is known to be non-hemolytic (Liu, D., et al. "Characteristics of Cell-Mediated, Anti-Listerial Immunity Induced by a Naturally Avirulent *Listeria monocytogenes* Serotype 4a Strain HCC23." <u>Arch. Microbiol.</u> 188 (2007): 251-256. PubMed: 17437086).