

***Lactobacillus rhamnosus*, Strain LMS2-1**

Catalog No. HM-106

Product Description: *Lactobacillus rhamnosus* (*L. rhamnosus*), strain LMS2-1 is a human gastrointestinal isolate.

Lot¹: 58730622

Manufacturing Date: 21AUG2009

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis ^{2,3} Cellular morphology Colony morphology ⁴ Viability (10°C) Viability (45°C) Viability (50°C) Aerobic growth Motility Biochemical Characterization ^{3,5} Catalase activity Nitrate reduction Aesculin hydrolysis Dextran synthesis from sucrose Growth in the presence of 15% Ethanol Glycosidic Fermentation: Cellobiose Salicin Sucrose Raffinose Lactose Maltose D-Fructose D-Mannitol D-Melezitose L-Rhamnose D-Xylose L-Arabinose D-Glucose Glucose to CO ₂ Gluconate to CO ₂	Gram-positive rod Report results Report results Growth Report results Growth Non-motile Report results Report results Positive Report results Report results Positive Positive Positive Negative Positive Positive Positive Positive Positive Positive Positive Positive Negative 11-89% of strains are positive Report results Report results Report results	Gram-positive rod Circular, low convex, entire, opaque and white (Figure 1) No growth Growth No growth Growth Non-motile Negative Negative Positive Positive Growth Positive Positive Positive Negative Positive Positive Positive Positive Positive Positive Positive Negative Negative Positive No CO ₂ produced No CO ₂ produced
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 830 bp)	Consistent with NCBI Reference Sequence: NZ_ACIZ01000148	Consistent with NCBI Reference Sequence: NZ_ACIZ01000148 ⁶
Riboprinter[®] Microbial Characterization System	Presumptive identification of <i>L. rhamnosus</i>	Presumptive identification of <i>L. rhamnosus</i>
PCR Assay of Extracted DNA 16S ribosomal RNA gene	~ 1500 bp amplicon	~ 1500 bp amplicon
Viability (post-freeze) ⁷	Growth	Growth

¹HM-106 was produced by inoculation of the deposited material into Lactobacilli MRS Broth (BD 288130) and incubated for 24 hours at 37°C in an aerobic atmosphere.

²The phenotypic characterization of HM-106 was completed after incubation at 37°C in an aerobic atmosphere without CO₂ (characterization assays cannot be completed in the presence of CO₂). If no result was observed after 14 days incubation then the test was considered negative.

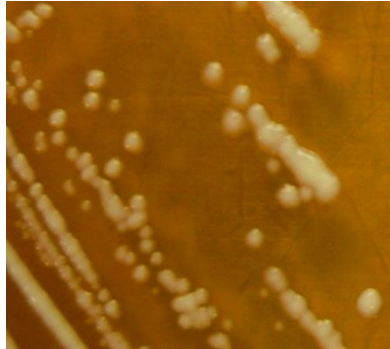
³Collins, M.D., B. A. Phillips and P. Zanoni. "Deoxyribonucleic Acid Homology Studies of *Lactobacillus casei*, *Lactobacillus paracasei* sp. nov., subsp. *paracasei* and subsp. *tolerans*, and *Lactobacillus rhamnosus* sp. nov., comb. nov." *Int. J. Syst. Bacteriol.* 39 (1989): 105-108.

⁴48 hours at 37°C in an aerobic atmosphere with 5% CO₂ on Lactobacilli MRS Agar

⁵Sneath, P., et al. (Eds.) (1986) *Bergey's Manual of Systemic Bacteriology*, Volume 2.

⁶Also consistent with other *Lactobacillus* species
⁷24 hours at 37°C and aerobic atmosphere in Lactobacilli MRS Broth

Figure 1



Date: 13 JAN 2010

Signature: Signature on File

Title: Technical Manager, BEI Authentication or designee

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