MRS Broth | AS-1296

Used for the enrichment, isolation, and cultivation of *Lactobacillus* species.

MRS Agar is a selective culture medium used for cultivation and isolation of *lactobacilli* from different materials, such as the oral cavity, dairy products, food, and fecal samples. It is a modified version of the original de Man, Rogosa, and Sharpe formulation. Crucial components of the medium have specialized roles: glucose is the main source of carbohydrates and energy, while peptone and yeast extract give necessary supplies of carbon and nitrogen. Tween 80 facilitates the consumption of fatty acids, which increases the medium's ability to support *Lactobacillus* metabolism. As selective agents, sodium acetate and ammonium citrate prevent the formation of contaminants like mold and *streptococci*.

Since many species show growth inhibition at higher pH values, it is frequently required to modify the medium's pH down below 6.0 to optimize growth conditions for specific *Lactobacillus* strains.

Composition (gr/L)

Peptone from Casein	10
Meat Extract	8
Yeast Extract	4
D-Glucose	20
Dipotassium Hydrogen Phosphate	2
Tween® 80	1
Di-Ammonium Hydrogen Citrate	2
Sodium Acetate	5
Magnesium Sulphate	0.2
Manganese Sulphate	0.04
Final pH at 25°C	5.7 ± 0.2

Preparation

Dissolve 52.2 g of the powder into 1 litter distilled water. Autoclave at 121 °C for 15 minutes or 118°C to achieve growth of *Bifidobacterium* spp.

Quality Control

Dehydrated Appearance: Tan, homogeneous, appears moist.

Prepared Appearance: Medium amber, clear to very slightly opalescent.

Reaction of 5.2% Solution at 25°C: pH 5.7 ± 0.2

Microbial Test Results

Incubate at 35 ± 2 °C for 3 days up to 5 days.

Organism (ATCC)	Recovery
Lactobacillus acidophilus (4356)	Good/ Very Good
Lactobacillus plantarum (8014)	Good/ Very Good
Lactobacillus Casei (39392)	Good/ Very Good
Lactobacillus fermentum (9338)	Good/ Very Good
Escherichia coli (25922)	Poor
Pseudomonas aeruginosa (27853)	None

Storage

Keep the container of dehydrated powder and prepared culture medium at 2 to 8 °C.