

# MRS Agar



Medium used for the isolation of and cultivation Lactobacilli spp.

\*Equally use with MFDS (MB-M1024K).

## • CONTENTS (Liter)

Enzyme Digest of Casein	10.0 g
Meat Extract	10.0 g
Yeast Extract	4.0 g
Glucose	20.0 g
Tween 80	1.08 g
Triammonium Citrate	2.0 g
Sodium Acetate	5.0 g
Magnesium Sulfate Heptahydrate	0.2 g
Manganese Sulfate Tetrahydrate	0.05 g
Dipotassium Hydrogen Phosphate	2.0 g
Agar	15.0 g
Final pH = 6.5 ± 0.2 at 25°C	

## • PROCEDURE

Suspend 69.33 G of powder in 1 L of distilled or deionized water. Heat to boiling until completely dissolved. Sterilize by autoclave at 121°C for 15 minutes. Cool to 45 - 50°C in water bath. Mix well. Pour into petri dishes.

## • INTERPRETATION

MRS Agar is a medium used for the isolation and cultivation of Lactobacilli spp. Peptones provide nitrogen, carbon, amino acids, vitamins and minerals. Glucose provides the energy source. Tween 80 provides growth factors for growth of Lactobacilli spp. Triammonium citrate and sodium acetate are the selective agents. Magnesium sulfate and manganese sulfate provide cations. Dipotassium hydrogen phosphate is the buffering agent. Agar is the solidifying agent.

## • TECHNIC

Inoculate the specimen using a sterile loop to the medium. Incubate at 36 ± 1°C for 48 - 72 ± 3 hours under appropriate condition. Refer appropriate references for recommended test procedure.

## • QUALITY CONTROL FOR USE

### Dehydrated medium

Appearance: moist appearance, with a tendency to clump

Color: beige

### Prepared medium

Appearance: clear to slightly opalescent

Color: amber

Incubation conditions: 36 ± 1°C / 48 - 72 ± 3 hours / microaerobic condition

Microorganism	ATCC	Inoculum CFU	Growth
<i>Lactobacillus bulgaricus</i>	11842	50-100	good
<i>Lactobacillus fermentum</i>	9338	50-100	good
<i>Lactobacillus plantarum</i>	8014	50-100	good

## • STORE

The powder is very hygroscopic. Store the powder at 2 - 8°C, in a dry environment, in its original container tightly closed and use it before the expiry date on the label. Store prepared medium at 2 - 8°C.

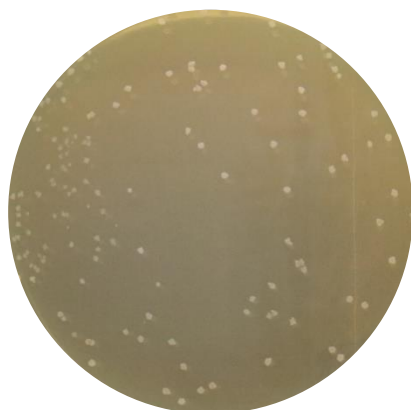
## • REFERENCES

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2. Cox, G.P., and M. Briggs (1954). J. App. Bact.17:18.
3. De Man, J.C., M. Rogosa, and M.E. Sharpe (1960). J. App. Bact. 23:130-135.
4. ISO/FDIS 15214 (1998) Microbiology of food and animal feeding stuffs-Horizontal method for the enumeration of mesophilic lactic acid bacteria colony count technique.
5. Marshall R.T. (Ed.), 1993, Standard Methods for the Examination of Dairy Products, 16th ed., APHA, Washington, D.C.
6. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods For the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
7. Sabine and Vaselekos, 1965, Nature, 206:960.
8. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol.1, Williams and Wilkins, Baltimore.
9. Refer to the MFDS.

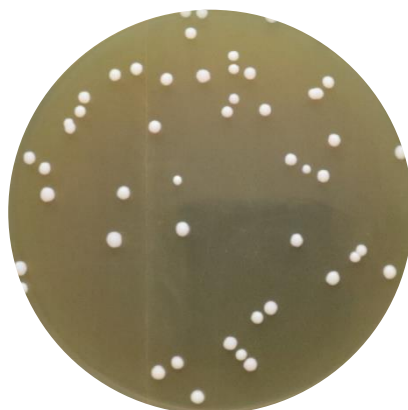
## • PACKAGE

Cat. No : MB-M1024 MRS Agar	500 G
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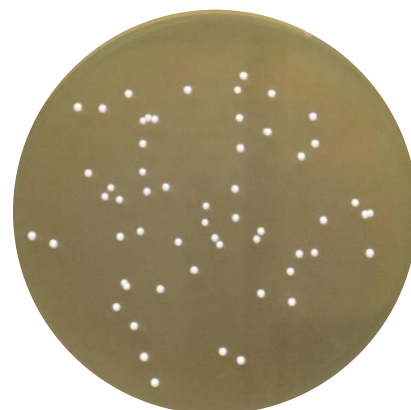
## • MICROBIAL CULTURE IMAGES



*Lactobacillus bulgaricus* ATCC 11842



*Lactobacillus fermentum* ATCC 9338



*Lactobacillus plantarum* ATCC 8014

Incubation conditions : 36 ± 1°C / 48 - 72 ± 3 hours under microaerobic condition