MRS Broth

Medium used for the isolation of *Lactobacilli* spp.

• CONTENTS (Liter)

Proteose Peptone	10.0 g
Meat Extract	10.0 g
Yeast Extract	5.0 g
Glucose	20.0 g
Tween 80	1.0 g
Triammonium Citrate	2.0 g
Sodium Acetate	5.0 g
Magnesium Sulfate	0.1 g
Manganese Sulfate	0.05 g
Dipotassium Phosphate	2.0 g
Final pH = 6.5 ± 0.2 at 25°C	

• PROCEDURE

Suspend 55.15 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 tubes.

• INTERPRETATION

MRS Broth is a general purpose medium used for the isolation of *Lactobacilli* spp.. Proteose peptone, beef extract and yeast extract provide nitrogen, carbon, amino acids, vitamins and minerals. Glucose provides the energy source. Tween 80 provides growth factors for growth of *Lactobacilli.* Tween 80 provides fatty acids. Triammonium citrate and sodium acetate is the selective agents. Magnesium sulfate and manganese sulfate provide cations. Dipotassium phosphate is the buffering agent.

• TECHNIC

Inoculate the specimen with stab using a sterile needle to the medium. Shake gently for spreading microorganism. Incubate at 35 ± 2°C for 18 - 24 hours up to 72 hours under microaerophilic condition. Refer appropriate references for recommended test procedure.

• QUALITY CONTROL FOR USE

Dehydrated medium
Appearance: free-flowing, homogeneous
Color: beige
Prepared medium
Appearance: clear with no precipitate
Color: amber
Incubation conditions: 35 ± 2°C / 18 - 24 hours up to 72 hours / microaerophilic condition

Microorganism	ATCC	Inoculum CFU	Growth
Lactobacillus fermentum	9338	50-100	good
Lactobacillus delbrueckii	11842	50-100	good
Lactobacillus plantarum	8014	50-100	good

• STORE

The powder is very hygroscopic. Store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until signs of deterioration or contamination are evident. Store prepared medium at 2-8°C.

• REFERENCES

1. Briggs, M. (1953). J. Dairy Res. 20:36.
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 bacteriacolonycount technique.
5. Marshall R.T. (Ed.), 1992, 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.

• PACKAGE

Cat. No : MB-M1025 MRS Broth	500 G

• MICROBIAL CULTURE IMAGES

None | *L.Plantarum* ATCC 8014 | *L.Fermentum* ATCC 9338

Incubation conditions : 35±2℃ 72h under microaerophilic condition