

## TM 2443 - MRS AGAR, W/LOW pH

### INTENDED USE

For cultivation of all *Lactobacillus* species from all types of material.

### PRODUCT SUMMARY AND EXPLANATION

Lactobacilli MRS medium is based on the formulation of deMan, Rogosa and Sharpe with slight modification. It supports luxuriant growth of all Lactobacilli from dairy products, foods and other sources.

Lactobacilli are microaerophilic and generally require layer plates for aerobic cultivation on solid media. When the medium is set, another layer of un-inoculated MRS Agar is poured over the surface to produce a layer plate. Lactobacilli isolated on MRS Agar should be further confirmed biochemically.

### COMPOSITION

Ingredients	Gms / Ltr
Meat peptone	10.000
Beef extract	10.000
Yeast extract	5.000
Diammonium hydrogen citrate	2.000
Dipotassium hydrogen phosphate	2.000
Dextrose (Glucose)	20.000
Magnesium sulphate heptahydrate	0.200
Manganese sulphate tetrahydrate	0.050
Sodium acetate trihydrate	5.000
Agar	12.000

### PRINCIPLE

Meat peptone and Beef extract supply nitrogenous and carbonaceous compounds. Yeast extract provides vitamin B complex and dextrose is the fermentable carbohydrate and energy source. Polysorbate 80 supplies fatty acids required for the metabolism of Lactobacilli. Sodium acetate and ammonium citrate inhibit Streptococci, moulds and many other microorganisms. Magnesium sulphate and manganese sulphate provide essential ions for multiplication of lactobacilli. Phosphates provide good buffering action in the media.

### INSTRUCTION FOR USE

- Dissolve 64.15 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.
- Mix well and pour into sterile Petri plates.

### QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to light yellow homogeneous free flowing powder
Appearance of prepared medium	: Medium to dark amber coloured, clear to slightly opalescent gel forms in Petri plates
pH (at 25°C)	: 5.4±0.2

### INTERPRETATION

Cultural characteristics observed after an incubation or longer (with 5% CO<sub>2</sub>).



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
<i>Lactobacillus casei</i>	9595	50-100	luxuriant	>=70 %	35-37°C	18-24 Hours
<i>Lactobacillus fermentum</i>	9338	50-100	luxuriant	>=70 %	35-37°C	18-24 Hours
<i>Lactobacillus leichmannii</i>	7830	50-100	luxuriant	>=70 %	35-37°C	18-24 Hours
<i>Lactobacillus plantarum</i>	8014	50-100	luxuriant	>=70 %	35-37°C	18-24 Hours

**PACKAGING:**

In pack size of 500 gm bottles.

**STORAGE**

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.













**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

**DISPOSAL**

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

**REFERENCES**

- American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
- deMan J., Rogosa M. and Sharpe M., 1960, J. Appl. Bacteriol., 23:130.
- Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2<sup>nd</sup> Edition.
- Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
- MacFaddin J.,1985, Media for Isolation-Cultivation-Identification -Maintenance of Medical Bacteria, Vol.1, Williams and Wilkins, Baltimore.
- Marshall R.T. (Ed.), 1992, Standard Methods for the Examination of Dairy Products, 16th ed., APHA, Washington, D.C.
- Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
- Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.

 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP Authorized Representative <small>MediNet GmbH Buckstrasse 10, 48163 Muenster, Germany</small>	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

**\*For Lab Use Only**

**Revision: 08 Nov., 2019**

