TM 2215 – MRS AGAR, MODIFIED (ISO 15214:1998)

INTENDED USE

For isolation and enumeration of mesophilic lactic acid bacteria from food.

PRODUCT SUMMARY AND EXPLANATION

MRS Agar, Modified is in accordance with ISO,for the enumeration of mesophilic lactic acid bacteria. Mesophilic bacteria are divided into two groups: Lactic Acid Starter bacteria (including *Lactococcus lactis subsp. lactis* and *Lactococcus lactis subsp. cremoris*), which are primarily used for producing lactic acid, and Aroma Producing bacteria (*including Lactococcus lactis subsp. lactis biovar diacetylactis* and *Leuconostoc mesenteriodes subsp. cremoris*), which are primarily used for producing CO_2 gas and flavor. MRS Agar, Modified (Lactobacillus Heteroferm Screen Agar) recommended by APHA, is used for the isolation and cultivation of *Lactobacillus* species from salad dressings.

COMPOSITION

Ingredients	Gms / Ltr
Enzymatic digest of casein	10.000
Meat extract	10.000
Yeast extract	4.000
Triammonium citrate	2.000
Sodium acetate	5.000
Magnesium sulphate.7H2O	0.200
Manganese sulfate. 4H2O	0.050
Dipotassium hydrogen phosphate	2.000
Dextrose (Glucose)	20.000
Polysorbate 80 (Tween 80)	1.080
Agar	15.000

PRINCIPLE

The medium consists of Tryptone, Meat extract and yeast extract which supply nitrogen, carbon and other elements essential for the growth of Lactobacilli. Dextrose (Glucose) is the carbohydrate source. Polysorbate 80 (Tween 80) supplies fatty acids required by Lactobacilli. Triammonium citrate, sodium acetate inhibits gram-negative organisms and certain gram-positive bacteria.

INSTRUCTION FOR USE

- Dissolve 69.21 grams in 1000 ml purified / distilled water.
- 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 yellow homogeneous free flowing powder.
Appearance of prepared medium : Yellow coloured slight opalescent gel forms in Petri plates.
pH (at 25°C) : 5.7 ± 0.1

INTERPRETATION

Cultural characteristics observed after incubation (with 5% CO_2).

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation temperature	Incubation Period
Lactobacillus sakei	15521	50-100	Good-luxuriant	>=50%	30°C	18-48 Hours
Lactococcus lactis	19435	50-100	Good-luxuriant	>=50%	30°C	18-48 Hours
Escherichia coli	8739	>=10^3	Inhibited	0%	30°C	18-48 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

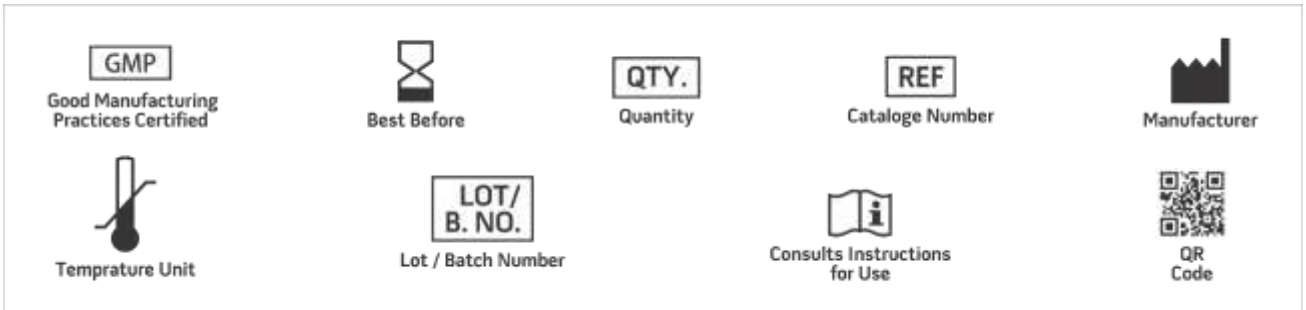
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided 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

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
2. 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.
3. Microbiology of food and animal feeding stuffs-Horizontal method for the enumeration of mesophilic lactic acid bacteria. ISO 15214:1998(E).
4. 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.
5. Smittle R. B. and Flowers R. M., 1982, J. Food Protection, 45:977.



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

***For Lab Use Only**

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