TM 187 – LACTOBACILLUS HETEROFERM SCREEN BROTH (MRS BROTH, MODIFIED)

INTENDED USE

For isolation and cultivation of *Lactobacillus* species from foods.

PRODUCT SUMMARY AND EXPLANATION

Mayonnise, cooked starch-based dressings resembling mayonnise and pourable dressings are the types of salad dressings available. Microorganisms in salad dressings come from the ingredients from manufacturing equipments and from air. The microflora causing salad dressing to spoil seems quite restricted and consists of few species of *Lactobacillus*, *Saccharomyces* and *Zygosaccharomyces*.

MRS Broth, Modified (Lactobacillus Heteroferm Screen Broth) recommended by APHA, is used for the isolation and cultivation of *Lactobacillus* species from salad dressings. MRS Broth, Modified are the modification of MRS medium of deMan et al.

COMPOSITION

Ingredients	Gms / Ltr
Dextrose	20.000
Proteose peptone	10.000
Yeast extract	5.000
Sodium acetate	5.000
2-Phenylethyl alcohol	3.000
Ammonium citrate	2.000
Dipotassium phosphate	2.000
Magnesium sulphate	0.100
Manganese sulphate	0.050
Bromocresol green	0.040
Cycloheximide	0.004

PRINCIPLE

This medium consists of Proteose peptone and dextrose which supply nitrogen, carbon and other elements essential for the growth of Lactobacilli. Polysorbate 80 a mixture of oleic esters, supplies fatty acids required by Lactobacilli. Ammonium citrate, sodium acetate, 2-phenylethyl alcohol and cycloheximide inhibit gram-negative organisms, moulds and certain gram-positive bacteria. Certain yeasts are also suppressed because of presence of cycloheximide. Bromocresol green is the pH indicator, which under acidic conditions, changes colour from green to yellow.

INSTRUCTION FOR USE

- Dissolve 47.2 grams in 1000 ml purified/distilled water containing 1 ml polysorbate 80.
- Mix thoroughly and dispense in tubes containing inverted Durham's tubes.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. If necessary, adjust the pH with glacial acetic acid after sterilization.
  Warning: Cycloheximide is very toxic. Avoid skin contact or aerosol formation and inhalation.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to bluish grey homogeneous free flowing powder.
Appearance of prepared medium : Green coloured clear to slightly opalescent solution in tubes.
pH (at 25°C) : 4.3 ± 0.2

INTERPRETATION

Cultural characteristics observed in presence of 5-10% Carbon dioxide (CO_2) after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Lactobacillus casei	9595	50-100	Luxuriant	35-37°C	Upto 3 Days
Lactobacillus acidophilus	4356	50-100	Luxuriant	35-37°C	Upto 3 Days
Lactobacillus fermentum	9338	50-100	Luxuriant	35-37°C	Upto 3 Days
Lactobacillus plantarum	8014	50-100	Luxuriant	35-37°C	Upto 3 Days

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

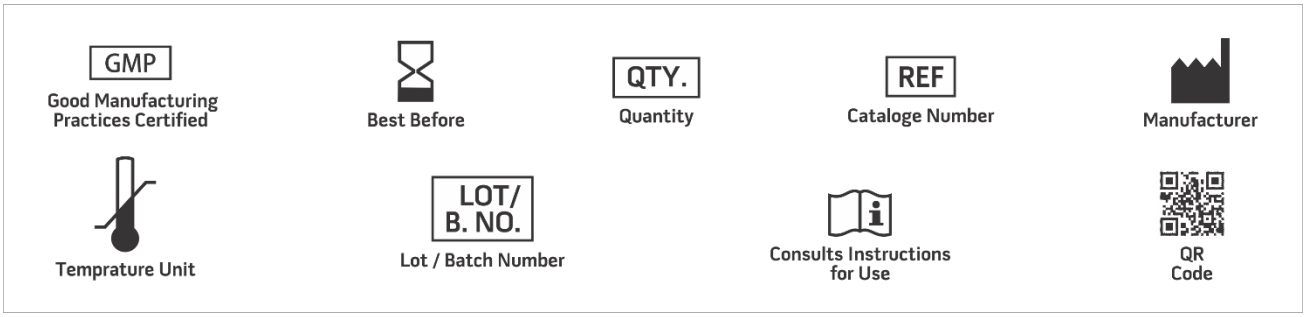
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided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

1. Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd Ed., APHA, Washington, D.C.
2. Smittle R. B. and Flowers R. M., 1982, J. Food Protection, 45:977.
3. DeMan J. D., Rogosa M. and Sharpe M. E., 1960, J. Appl. Bacteriol.,23:130.



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

***For Lab Use Only**

Revision: 08 Nov., 2019