MRS Broth, Modified (Lactobacillus Heteroferm Screen Broth)

Intended Use
MRS Broth, Modified (Lactobacillus Heteroferm Screen Broth) is a medium recommended for the isolation and cultivation of *Lactobacillus* species from salad dressings.

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

Principle
Proteose peptone and dextrose 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.

Formula*

Ingredients	**g/L**
Dextrose	20.0
Proteose Peptone	10.0
Yeast Extract	5.0
Sodium Acetate	5.0
2-Phenylethyl Alcohol	3.0
Ammonium Citrate	2.0
Dipotassium Phosphate	2.0
Magnesium Sulphate	0.1
Manganese Sulphate	0.05
Bromocresol Green	0.04
Cycloheximide	0.004
Final pH (at 25°C)	4.3 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen
Food samples

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 47.20 g of the powder in 1000 mL purified / distilled water containing 1mL Polysorbate 80 (204160700500).
2. Mix thoroughly and dispense in tubes containing inverted Durhams tubes.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
4. If, necessary, adjust the pH with glacial acetic acid after sterilization.

Quality Control

Dehydrated Appearance: Light yellow to bluish grey homogeneous free flowing powder.
Prepared Appearance: Green to dark green coloured, clear to slightly opalescent solution in tubes.
Cultural Response: Cultural characteristics observed in presence of 5-10% Carbon dioxide (CO_2) , after an incubation at 35°C-37°C for upto 3 days.

Organisms (ATCC)	**Growth**
Lactobacillus acidophilus (4356)	Good
Lactobacillus fermentum (9338)	Good
Lactobacillus plantarum (8014)	Good
Lactobacillus casei (9595)	Good

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Precaution: Cycloheximide is very toxic. Avoid skin contact or aerosol formation and inhalation.

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. DeMan J. D., Rogosa M. and Sharpe M. E., 1960, J. Appl. Bacteriol.,23:130
2. Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd Ed., APHA, Washington, D.C.
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	**Product description**	**Pack Size**
201131630500	Dehydrated Culture Media	500 g