



# Technical Data

## MRS HiVeg Broth, Modified (Lactobacillus Heteroferm Screen MV1164 HiVeg Broth)

Modified MRS HiVeg Broth is recommended for the isolation and cultivation of *Lactobacillus* species from foods.

### Composition\*\*

Ingredients	Gms / Litre
Dextrose	20.000
HiVeg peptone No. 3	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
Bromo cresol green	0.040
Cycloheximide	0.004
Final pH ( at 25°C)	4.3±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 47.20 grams in 1000 ml distilled water containing 1 ml polysorbate 80. Mix thoroughly and dispense in tubes containing inverted Durham's tubes. Sterilize by autoclaving at 15 lbs 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.

### Principle And Interpretation

MRS Media is the modification of MRS medium of deMan et al (1) recommended for isolation and cultivation of *Lactobacilli* causing spoilage of salad dressings (2, 3).

HiVeg peptone no. 3 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 the presence of Cycloheximide.

Inoculate 1ml of 1:10 dilutions of the dressing sample into three MRS HiVeg Broth tubes. Incubate at 32°C for 72 hours ± 2 hours. Positive tubes have trapped CO<sub>2</sub> in the Durham's tubes or bubbles of CO<sub>2</sub> clinging to the inside of the tube and a colour change from green to yellow indicating acid production.

### Quality Control

#### Appearance

Light blue to bluish grey homogeneous free flowing powder

#### Colour and Clarity of prepared medium

Green coloured clear to slightly opalescent solution in tubes

#### Reaction

Reaction of 4.72% w/v aqueous solution at 25°C. pH : 4.3±0.2

#### pH

4.10-4.50

#### Cultural Response

Cultural characteristics observed in presence of 5-10% Carbon dioxide(CO<sub>2</sub>) after an incubation at 35-37°C for upto 3 days.

Please refer disclaimer Overleaf.

## Cultural Response

Organism	Inoculum (CFU)	Growth
<b>Cultural Response</b> <i>Lactobacillus acidophilus</i> ATCC 4356	50-100	luxuriant
<i>Lactobacillus fermentum</i> ATCC 9338	50-100	luxuriant
<i>Lactobacillus plantarum</i> ATCC 8014	50-100	luxuriant

## Storage and Shelf Life

Store dehydrated and the prepared medium at 2 - 8°C in tightly closed container. Use before expiry date on the label.

## Reference

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

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