Technical Information

MRS MiVeg Broth, Modified
(Lactobacillus Heteroferm Screen MiVeg Broth)

Product Code :VM2164

Application:- Modified MRS MiVeg Broth is recommended for the isolation and cultivation of *Lactobacillus* species from foods.

Composition

Ingredients	Gms / Litre
Dextrose	20.000
MiVeg 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.

Principle & Interpretation

MRS medium is prepared by using vegetable peptones in place of animal based peptones which makes it   free from BSE/TSE risk . This medium is the modification of MRS medium of deMan et al (1) recommended for the isolation and cultivation of   *Lactobacilli* causing spoilage of salad dressings (2,3)..

This medium contains MiVeg peptone No. 3 and dextrose which supplies nitrogen, carbon and other elements essential for the growth of   *Lactobacilli* . Polysorbate 80 a mixture of oleic esters, provides   fatty acids required by   *Lactobacilli* . Ammonium citrate, sodium acetate, 2-phenylethyl alcohol and cycloheximide inhibits gram-negative organisms, moulds and certain gram-positive bacteria. Due to presence of Cycloheximide in the medium growth of certain yeasts are suppressed.

Inoculate 1ml of 1:10 dilutions of the dressing sample into three broth tubes. Incubate at 32°C for 72 hours ± 2 hours. Positive tubes have trapped CO_2 in the Durham's tubes or bubbles of CO_2 clinging to the inside of the tube and acid production is indicated by change in colour from green to yellow.

Methodology

Suspend 47.20 grams of powder media in 1000 ml distilled   water containing 1 ml polysorbate 80. Mix thoroughly. 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.

Quality Control

Physical Appearance

Light yellow 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 pH: 4.3±0.2 at 25°C

pH range

4.10-4.50

Cultural Response/Characteristics

Cultural characteristics observed in presence of 5-10% Carbon dioxide (CO_2) after an incubation at 35-37°C for upto 3 days.

Organisms (ATCC)	Inoculum (CFU)	Growth
Lactobacillus acidophilus ATCC 4356	50-100	luxuriant
Lactobacillus fermentum ATCC 9338	50-100	luxuriant
Lactobacillus plantarum ATCC 8014	50-100	luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8⁰ in sealable plastic bags for 2-5 days.

Further Reading

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.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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