

Slanetz and Bartley Medium

MF022/E*/F[▽]

Intended use

Recommended for detection and enumeration of faecal Streptococci.

Directions

The test sample should be filtered through a sterile membrane filter having pore size of 0.22 μ / 0.45 μ . Rehydrate the nutrient pad with 2.0-2.5 ml sterile distilled / purified water. After filtration, remove the membrane filter aseptically using sterile forceps. Place the membrane filter on rehydrated nutrient pad. Incubate the inoculated nutrient. Interpret the results qualitatively by observing the presence or absence of growth and quantitatively by counting the number of colonies on the surface of the membrane filter and calculating CFU/ml.

Principle And Interpretation

DriFilter Membrane Nutrient Pad Medium is ready to use sterile culture media in the form of a 50 mm biological inert absorbent pads impregnated with Sabouraud Dextrose Medium, then dried and sterilized in 55 mm petri plate. They eliminate the need of laborious media preparation and autoclaving procedures. The nutrient pads are to be just rewetted with sterile distilled water and are ready to use. Use of nutrient pads allows larger sample volumes to be tested at a time. Interpretation of results is directly by counting the CFUs and also quantifies the microbial load present in the sample.

Slanetz and Bartley Medium was originally devised by Slanetz and Bartley (9) for the detection and enumeration of Enterococci by membrane filtration technique. It can be also used as a direct plating medium (2,8). M612I differs from M612 in the type of buffering system used. This medium composition is as per specifications laid in ISO (5). Tryptose and yeast extract serves as a source of essential nutrients along with B-complex vitamins and nitrogenous nutrients. The medium is highly selective for Enterococci. Sodium azide has inhibitory effect on gram-negative organisms. Triphenyl Tetrazolium Chloride is reduced to the insoluble formazan inside the bacterial cell forming dark red-coloured colonies. When the medium is incubated at higher temperature (44-45°C), all red or maroon colonies can be considered as presumptive Enterococci (7,10)

The Department of Health (3) has recommended this medium to be used for enumeration of Enterococci in water supplies. Water is filtered through a membrane filter which is then placed on the surface of the Slanetz and Bartley Medium plates and incubated at 35°C for 4 hours and then at 44-45°C for 44-48 hours. Red or maroon colonies are counted as Enterococci. The preliminary incubation at 35°C helps for the recovery of stressed organisms. Not all the species reduce TTC, hence pale colonies also should be considered. Food samples are homogenized and so diluted with physiological saline to give 15-150 colonies on each petri plate. Homogenates or dilutions are spread on agar surface and incubated at 35°C for 48 hours. Pink or dark red colonies with a narrow whitish border are counted (8).

Type of specimen

Water samples.

Specimen Collection and Handling:

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (1). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Further biochemical testing is required for identification of species.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Dry filter membrane pad of 50mm diameter

Colour

Light yellow coloured nutrient pad

Sterility test

Passes release criteria

Cultural Response

Cultural characteristics observed after incubation at 44-45°C for 44-48 hours.

Organism	Inoculum (CFU)	Growth	Colour of colony
<i>Escherichia coli</i> ATCC 25922 (00013)*	$\geq 10^4$	inhibited	
<i>Enterococcus faecalis</i> ATCC 29212 (00087*)	50-100	luxuriant	red or maroon

Key : * - Corresponding WDCM numbers

Storage and Shelf Life

On receipt store between 10-30°C. Use before expiry date on the label.

Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,6).

Reference

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- Department of Health and Social Security, 1982, Report 71, HMSO, London.
- Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
- ISO 7899-2: 2000 Standard for Water Quality - Detection and enumeration of intestinal enterococci - Part 2 : Membrane filtration method.
- 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.
- Mead G.C., 1966, Proc. Soc. Wat. Treat. Exam., 15:207.
- Nordic Committee on Food Analysis, 1968, Leaflet 68.
- Slanetz L. W. and Bartley C.H., 1957, J. Bact., 74:591.
- Taylor E.W. and Burman N.P., 1964, J. Appl. Bact., 27:294.

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Note:

MF000 - Sterile pad packed individually in sterile Petri plate without Membrane Filter

MF000E* - Sterile pad packed individually in sterile disposable plastic bag without Membrane Filter

MF000F[▽] - Sterile pad packed individually in sterile Petri plate with sterile Membrane Filter (0.45 mm).

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.