Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Slanetz And Bartley Medium

Product Code: DM 1612I

Application: - Slanetz And Bartley Medium is recommended for detection and enumeration of faecal Streptococci from water samples by membrane filtration technique.The composition and performance criteria of this medium are as per the specifications laid down in ISO/DIS 7899 -2: 2000.

Composition**

Ingredients	Gms / Litre
Tryptose	20.000
Yeast extract	5.000
Dextrose	2.000
Dipotassium hydrogen phosphate	4.000
Sodium azide	0.400
2,3,5-Triphenyl tetrazolium chloride	0.100
Agar	15.000
Final pH (at 25°C)	7.2±0.1

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

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). DM1612I differs from DM1612 in the type of buffering system used. This medium composition is as per specifications laid in ISO (5).

Tryptose and yeast extract acts 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.

expiry period when stored at

Performance and Evaluation

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

Methodology

Suspend 46.5 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE OR OVERHEAT. Excessive heating is detrimental. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 4.65% w/v aqueous solution at 25°C. pH : 7.2±0.1

pH Range

7.10 -7.30

Cultural Response

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

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
*Enterococcus faecalis ATCC 29212 (00087)**	50-100	good-luxuriant	>=50%	red or maroon
*Enterococcus faecalis ATCC 19433 (00009)**	50-100	good-luxuriant	>=50%	red or maroon
Enterococcus faecalis WDCM 00176	50-100	good-luxuriant	>=50%	red or maroon
*Enterococcus faecium ATCC 6057 (00177)**	50-100	good-luxuriant	>=50%	red or maroon
Enterococcus faecium WDCM 00178	50-100	good-luxuriant	>=50%	red or maroon
*Escherichia coli ATCC 25922 (00013)**	>=10_4	inhibited	0%	--
*Escherichia coli ATCC 8739 (00012)**	>=10_4	inhibited	0%	--
Staphylococcus aureus subsp. *Aureus ATCC* 6538 (00032)*	>=10_4	inhibited	0%	--
Staphylococcus aureus subsp. aureus ATCC 25923 (00034)*	>=10_4	inhibited	0%	--

Key : * - Corresponding WDCM numbers

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. 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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,6).

Further Reading

1. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.

2. Burkwall M.K. and Hartman P.A., 1964, Appl. Microbiol., 12:18.

3. Department of Health and Social Security, 1982, Report 71, HMSO, London.

4. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.

5. ISO 7899-2: 2000 Standard for Water Quality - Detection and enumeration of intestinal enterococci - Part 2 : Membrane filtration method.

6. 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.

7. Mead G.C., 1966, Proc. Soc. Wat. Treat. Exam., 15:207. Revision : 05/ 2019

8. Nordic Committee on Food Analysis, 1968, Leaflet 68.

9. Slanetz L. W. and Bartley C.H., 1957, J. Bact., 74:591.

10. Taylor E.W. and Burman N.P., 1964, J. Appl. Bact., 27:294.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at CDH is true and accurate
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