Nutritive M-Protein Agar

M932

Intended Use:

Recommended for enumeration of salt tolerant cocci in brined vegetables.

Composition**

Ingredients	Gms / Litre
Casitose isoelectric #	3.000
Peptonized SM powder$	7.000
Bromo cresol purple	0.040
Dextrose (Glucose)	1.000
Agar	12.000
Final pH (at 25°C)	6.5±0.2

**Formula adjusted, standardized to suit performance parameters
Equivalent to Isoelectric casein
$ Equivalent to Peptonized milk

Directions

Suspend 23.04 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.
Note : After sterilization the medium may look slightly opalescent

Principle And Interpretation

Vegetables may be preserved by salting or brining. In salting or brining, the vegetables may or may not undergo a lactic acid fermentation, depending upon the concentration of salt used. Numbers of salt tolerant cocci may be found over an extended period in brines, particularly in those containing no appreciable amount of developed acidity. These organisms are extremely salt tolerant but not acid tolerant.
Nutritive M-Protein Agar is formulated as recommended by APHA for enumeration of salt tolerant cocci from brined vegetables (3). Salt tolerant cocci are a cause of spoilage of brined vegetables and therefore pose a problem to the food industry. It thus becomes important to isolate these organisms for sterility checking of packed brined vegetables. Casitose isoelectric and peptonized SM powder provide essential growth nutrients for bacterial metabolism. Dextrose upon utilization produces acid and is indicated by the pH indicator bromocresol purple, which turns yellow. This helps in the differentiation of cocci. Count colonies that are grayish white, entire, glistening and of moderate size and similar colonies that are light orange to yellow in colour. Subsurface colonies are lenticular to elliptical in shape.

Type of specimen

Food samples - Brined vegetables

Specimen Collection and Handling

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (3).
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 and serological tests must be carried out for complete identification.

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
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.2% Agar gel.

Colour and Clarity of Prepared medium
Reddish purple coloured slightly opalescent gel forms in Petri plates

Reaction
Reaction of 2.3% w/v aqueous solution at 25°C. pH : 6.5±0.2

pH
6.30-6.70

Cultural Response
Cultural characteristics observed after an incubation at 32-35°C for 48-72 hours.

Organism	Growth
Enterococcus faecalis ATCC 29212 (00087*)	luxuriant
Pediococcus cerevisiae ATCC 10791	luxuriant

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle inorder 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. 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 (1,2).

Reference

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
2. 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.
3. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.

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