Standard Nutrient Agar, Modified

M2022

Intended use

Standard Nutrient Agar Modified is recommended for the cultivation and enrichment of less fastidious bacteria.

Composition**

Ingredients	Gms / Litre
Peptone from meat	3.450
Peptone from casein	3.450
Sodium chloride	5.100
Agar	13.000
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 25 grams in 1000 ml 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.

Principle And Interpretation

Fastidious organisms are organisms which require preformed organic molecules like vitamins, amino acids, nucleic acids, carbohydrates. In general bacterial pathogens need more preformed organic molecules than do nonpathogens. Media which are highly nutritional are generally used to enrich less fastidious organism so as to isolate them from test samples.

Standard Nutrient Agar, Modified can be used in the detection of inhibitors during the bacteriological examination of meat (1). This medium can also be modified with various additives (2).

Peptone from meat and casein in the medium provides the nitrogenous and carbonaceous compounds, long chain amino acids, vitamins and other essential nutrients. Sodium chloride maintains the osmotic equilibrium of the medium.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.3% Agar gel

Colour and Clarity of prepared medium

Dark amber to amber coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 2.5% w/v aqueous solution at 25°C. pH : 7.5±0.2

pH

7.30-7.70

Cultural Response

M2022: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Escherichia coli ATCC 11775	50-100	good-luxuriant	>=70%
Shigella flexneri ATCC 29903	50-100	good-luxuriant	>=70%
Salmonella Typhimurium ATCC 13311	50-100	good-luxuriant	>=70%

Staphylococcus aureus ATCC 25923	50-100	good-luxuriant >=70%
Pseudomonas aeruginosa ATCC 27853	50-100	good-luxuriant >=70%
Streptococcus pyogenes ATCC 19615	50-100	good-luxuriant >=70%

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 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. 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 (3,4).

Reference

1. Levetzow,R: Untersuchung auf Hemmstoffe im Rahmen der bakteriologischen Fleischuntersuchung, - Bundesgesundheitsblatt, 1971.14; 211-213.
2. Zavanella, M., Aurelia, P., a. Ferrini, A.M: Improved microbiological method for the detection of antimicrobial residues in meat.- 1986. Arch Lebensmittelhyg.,37:118-120.
3. Isenberg, H.D. Clinical Microbiology Procedures Handb0ook. 2nd Edition.
4. 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.

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