



Nutrient Agar pH 6.8

M561

Intended use

For the cultivation of bacteria and for the enumeration of organisms in water, sewage, faeces and other materials.

Composition**

Ingredients	g / L
Peptone	5.000
HM Peptone B #	3.000
Agar	15.000
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Equivalent to Beef extract

Directions

Suspend 23.00 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. If desired, the medium can be enriched with 5 - 10% v/v sterile defibrinated bloods. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Nutrient Agar is a basic culture medium used for maintenance or to check purity of subcultures prior to biochemical or serological tests from water (1) and Dairy (2). This medium may be used as slants or plates for routine work with non-fastidious organisms. Nutrient Agar, pH 6.8 has relatively simple formulation which provides the necessary nutrients for the growth of many microorganisms which are not very fastidious. Many bacteria have the optimum pH growth range of 6.6 to 7.0. Wetmore and Gochenour (3) maintained cultures of *Malleomyces* and *Pseudomonas* on Nutrient Agar to which glycerol was added. Greenberg and Cooper (4) employed this medium in cultivation of Staphylococci for the preparation of vaccines and antigens. Nutrient Agar has relatively simple formulation which provides the necessary nutrients for the growth of many microorganisms which are not very fastidious. HM Peptone B contains vitamins, organic nitrogen compounds, salts and little carbohydrates (5). Peptone provide amino acids and long chain peptides for the organisms.

Type of specimen

Clinical samples - faeces ; Food and dairy samples; Water samples

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (6,7).

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (2,8,9).

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 :

In Vitro diagnostic Use. For professional use only. 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 clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

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 1.5% Agar gel

Colour and Clarity of Prepared medium

Yellow coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 2.3% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH

6.60-7.00

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours .

Organism	Inoculum (CFU)	Growth	Recovery
<i>Enterococcus faecalis</i> ATCC 29212 (00087*)	50-100	luxuriant	≥70%
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	luxuriant	≥70%
<i>Salmonella Enteritidis</i> ATCC 13076 (00030*)	50-100	luxuriant	≥70%
<i>Salmonella Typhi</i> ATCC 6539	50-100	luxuriant	≥70%
<i>Salmonella Typhimurium</i> ATCC 14028 (00031*)	50-100	luxuriant	≥70%
<i>Shigella flexneri</i> ATCC 12022 (00126*)	50-100	luxuriant	≥70%
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	50-100	luxuriant	≥70%

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 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. 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 (6,7).

Reference

- 1.Lipps WC, Braun-Howland EB, Baxter TE,eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.
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- 5.Pelczar, Chan and Kreig, 1986, Microbiology, 5th ed., McGraw-Hill Book Company, New York.
- 6.Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
- 7.Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock, W.(2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
- 8.Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
- 9.Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.

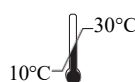
Revision : 05/2024



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Storage temperature



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