



Nutrient Agar 1.5%

M087I

Intended use:

Recommended as a general purpose nutrient medium which can be used for cultivation of fastidious microorganisms after appropriate enrichment. The composition and performance criteria are in accordance with ISO 1995, ISO/DIS 13720:2010.

ISO 6579-1 Specification -Nutrient Agar

M087I- Nutrient Agar 1.5%

Composition**

Ingredients	g / L	Ingredients	g / L
Meat Extract	3.000	HM peptone B #	3.000
Peptone	5.000	Peptone	5.000
Sodium chloride (NaCl) Optional	5.000	Sodium chloride	5.000
Agar	9.00 - 18.00	Agar	15.000
Final pH (at 25°C)	7.0±0.2	Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Equivalent to Beef extract

Directions

Suspend 28.0 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. If desired, it can be appropriately enriched with sterile blood, ascitic fluid or serum after cooling to 45-50°C.

Principle And Interpretation

Nutrient Agar is recommended for cultivation and maintenance of non fastidious microorganisms. Recently ISO Committee (1) has recommended it with a slight modification (M087I) for sub cultivation of *Pseudomonas* species isolated from meat and meat products.

Peptone is the principal source of organic nitrogen while HM peptone B provides carbohydrates, vitamins, organic nitrogen compounds and salts. Sodium chloride makes the medium isotonic preventing haemolysis of red blood corpuscles. This Nutrient Agar may be used for blood culturing work after the addition of sterile 5% v/v defibrinated blood and additional Sodium chloride (3g/l) (2).

Type of specimen

Food samples

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 further 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 coloured homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Yellow coloured clear gel forms in Petri plates. With the addition of blood : Cherry red coloured, opaque gel forms in Petri plates.

Reaction

Reaction of 2.8% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH

6.80-7.20

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>Pseudomonas aeruginosa</i> ATCC 27853 (00025*)	50-100	luxuriant	≥70%
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	50-100	luxuriant	≥70%
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	luxuriant	≥70%
<i>Streptococcus pneumoniae</i> ATCC 6303	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. 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 (4,5).

Reference

1. International Organization for Standardization (ISO), 1995, Draft ISO/DIS 13720.
2. Pelczar, Chan and Kreig, 1986, Microbiology, 5th ed., McGraw Hill Book Co., N.Y.
3. 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.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5. 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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Disclaimer :

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