



Nutrient Agar No.2

M1269S

Nutrient Agar No. 2 is used as a general purpose culture media. It is in accordance with BIS under the specification IS:5887 (Part-I) 1976 reaffirmed 1986, IS:5887 (Part-II) 1976 and IS:5887 (Part-V) 1976 reaffirmed 1986.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Meat extract	10.000
Sodium chloride	5.000
Agar	15.000
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 40 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. Mix well and pour in sterile Petri plates.

Principle And Interpretation

Nutrient Agar is a general purpose medium used for the examination of water and dairy products according to Standard Methods for the Examination of Water and Waste water (1) and Dairy Products (2). Nutrient Agar No. 2 is used in microbiological analysis of water by Czech Standards. It can also be used for cultivating several less fastidious microorganisms. It is recommended by BIS for the cultivation of *Escherichia coli*, *Staphylococcus aureus* and *Vibrio* from food samples (3,4,5). Nutrient Agar with 0.8% sodium chloride and pH 6.0 is used for cultivation of bacteria requiring slightly acidic conditions. Nutrient media may be used as enriched media by addition of 10% blood or other biological fluids like ascetic fluid, serum etc.

Meat extract and peptic digest of animal tissue provide the necessary nitrogen compound, carbon, vitamins and also some trace ingredients to nonfastidious organism like *Bacillus subtilis* and *Staphylococcus aureus*. Sodium chloride maintains osmotic equilibrium of the medium.

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 clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 4.0% w/v aqueous solution at 25°C. pH : 7.5±0.2

pH

7.30-7.70

Cultural Response

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

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response <i>Enterobacter aerogenes</i> ATCC 13048	50-100	luxuriant	≥70%

<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	>=70%
<i>Enterococcus faecalis</i> ATCC 29212	50-100	luxuriant	>=70%
<i>Klebsiella pneumoniae</i> ATCC 13883	50-100	luxuriant	>=70%
<i>Pseudomonas aeruginosa</i> ATCC 10145	50-100	luxuriant	>=70%
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant	>=70%
<i>Salmonella Typhimurium</i> ATCC 14028	50-100	luxuriant	>=70%

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference

- 1.Greenberg A.E., Trussell R.R. and Clesceri L.S. (Eds.), 1985, Standard Methods for the Examination of Water and Wastewater, 16th ed., APHA, Washington,D.C.
- 2.American Public Health Association, 1978, Standard Methods for the Examination of Dairy Products, 14th ed., APHA, Inc., Washington,D.C.
- 3.Bureau of Indian Standards IS:5887 (Part-I) 1976, reaffirmed 1986.
- 4.Bureau of Indian Standards IS:5887 (Part-II) 1976, Second Reprint December 1994.
5. Bureau of Indian Standards IS:5887 (Part-V) 1976, reaffirmed 1986.

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