Nutrient Agar pH 6.8

M561

Nutrient Agar is used for the cultivation of bacteria and for the enumeration of organisms in water, sewage, faeces and other materials.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	5.000
Beef extract	3.000
Agar	15.000
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 23.00 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. 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.

Beef extract contains vitamins, organic nitrogen compounds, salts and little carbohydates (5). Peptic digest of animal tissue provide amino acids and long chain peptides for the organisms.

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
M561: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours .

Organism	Inoculum (CFU)	Growth	Recovery
Enterococcus faecalis ATCC 29212	50-100	luxuriant	>=70%
Escherichia coli ATCC 25922	50-100	luxuriant	>=70%
Salmonella Enteritidis ATCC 13076	50-100	luxuriant	>=70%

Salmonella Typhi ATCC 6539	50-100	luxuriant	>=70%
Salmonella Typhimurium ATCC 14028	50-100	luxuriant	>=70%
Shigella flexneri ATCC 12022	50-100	luxuriant	>=70%
Staphylococcus aureus ATCC 25923	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 Waste water, 16th ed., APHA, Washington D.C.
2. Standard Methods for the Examination of Dairy Products, 1978, 14th ed., APHA, Washington D.C.
3. Wetmore and Gochenour, 1956, J. Bact., 72:79.
4. Greenberg and Cooper, 1960, Can. Med. Assn. J., 83:143.
5. Pelczar, Chan and Kreig, 1986, Microbiology, 5th ed., McGraw-Hill Book Company,New York.

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