Technical Information

Nutrient Agar Medium

Product Code: DM 1012M

Application: Nutrient agar medium is used as a general purpose culture medium which may be used as enriched medium by incorporating blood or other biological fluids in accordance with Indian Pharmacopoeia.

Composition**

Ingredients	Gms / Litre
Peptone	10.000
Beef extract	10.000
Sodium chloride	5.000
Agar	12.000
pH after sterilization	7.3±0.1

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Nutrient Agar is a basic culture medium used for maintaining microorganisms [1], and purity checking prior to biochemical or serological testing. It is also used for the cultivation and enumeration of bacteria, which are not fastidious in nature. In semisolid form it is used for maintenance of control or standard organisms. Indian Pharmacopoeia has recommended it for microbial limit tests of viable aerobic microorganism present in pharmaceutical substances [2].

Peptone and Beef extract provide the necessary nitrogen compounds, carbon, vitamins and also some trace ingredients. Sodium chloride maintains osmotic equilibrium. Nutrient media may be used as enriched media by the addition of 10% v/v blood or other biological fluids like ascitic fluid, serum etc.

Methodology

Suspend 37.0 grams of powder media in 1000 ml purified/distilled water. Shake well & heat to dissolve the medium completely.

Sterilize by autoclaving at 10 lbs pressure (115°C) for 30 minutes or alternatively at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder.

Gelling

Firm, comparable with 1.2% Agar gel.

Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent gel forms in Petri plates.

pH Range 7.20-7.40

Growth Promotion Test

Growth Promotion is carried out as per Indian Pharmacopoeia

Cultural Response/Characteristics

DM 2012M: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Observed Lot value (CFU)	Recovery	Incubation temperature	Incubation period
Escherichia coli ATCC 8739	50 -100	35 -100	>=70 %	35-37 °C	18 -24 hrs
Staphylococcus aureus ATCC 6538	50 -100	35 -100	>=70 %	35-37 °C	18 -24 hrs
Salmonella Typhimurium ATCC 14028	50 -100	35 -100	>=70 %	35-37 °C	18 -24 hrs
Salmonella Abony NCTC 6017	50 -100	35 -100	>=70 %	35-37 °C	18 -24 hrs
Peudomonas aeruginosa ATCC 9027	50 -100	35 -100	>=70 %	35-37 °C	18 -24 hrs

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days

Further Reading

1. Lapage S., Shelton J. and Mitchell T., 1970, 'Methods in Microbiology', Norris J. and Ribbons D. (ed.), Vol. 3A., Academic Press, London.
2. Indian Pharmacopoeia, 1996, Govt. of India, The Controller of Publications, Delhi.

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