DEV Nutrient Agar

M1884

Intended Use:

Recommendedfor determining total microbial count in water and food.

Composition**

Ingredients	Gms / Litre
HM peptone#	10.000
HM extract ##	10.000
Sodium chloride	5.000
Agar	18.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters
- Equivalent to Meat peptone
- Equivalent to Meat extract

Directions

Suspend 43 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. Mix well and pour into sterile Petri plates or dispense as desired.

Principle And Interpretation

DEV Nutrient Agar is a non-selective general purpose media supporting growth of wide number of microorganisms. It has almost double concentration of nitrogen sources that is used in Nutrient agar, making it more nutritious. This medium is in accordance with the German standard methods for testing water and food examination (1). Similar media is recommended by APHA for bacteriological examination of water and milk (2)

It contains peptone form meat, meat extract which provides necessary nitrogen sources, carbon, vitamins, growth factors and also trace ingredients to nonfastidious organisms. Sodium chloride maintains osmotic equilibrium of the medium. Agar acts as a solidifying agent. With addition of blood (10% v/v) or other biological fluids like ascetic fluid, serum or other supplements to promote growth of fastidious organisms. Either surface spread technique or pour plate method may be adopted for enumeration of microorganisms from samples under test. Incubation can be done at 20±2°C or 35±1°C and observed for bacterial growth for a period of 44±4 hours.

Type of specimen

Food sample, Water samples

Specimen Collection and Handling

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,2,8).
For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards.(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.This medium is general purpose medium and may not support the growth of fastidious organisms.

2. Further biochemical and serological test must be carried out for further information.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.8% Agar gel

Colour and Clarity of prepared medium
Light yellow coloured clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 4.3% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH
7.00-7.40

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
Escherichia coli ATCC 25922	50-100	good-luxuriant	>=70%
Pseudomonas aeruginosa ATCC 27853	50-100	good-luxuriant	>=70%
Salmonella Typhimurium ATCC 14028	50-100	good-luxuriant	>=70%
Salmonella Typhi ATCC 14028	50-100	good-luxuriant	>=70%
Klebsiella pneumoniae ATCC 13883	50-100	good-luxuriant	>=70%
Serratia marcescens ATCC 14756	50-100	good-luxuriant	>=70%
Aeromonas hydrophila ATCC 7966	50-100	good-luxuriant	>=70%
Proteus vulgaris ATCC 13315	50-100	good-luxuriant	>=70%
Staphylococcus aureus ATCC 25923	50-100	good-luxuriant	>=70%
Bacillus subtilis ATCC 6633	50-100	good-luxuriant	>=70%

Storage and Shelf Life

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

Reference

1.German Standard methods (Deutsche einheitsverfahren) , 1990, The German Drinking water Regulations (Trinkwasser-Verordnung) and the German regulation of food examination (LMBG).
2.American Public Health Association.1923. Standard methods of milk analysis. 4th Ed. American Public Health association, Washington, D.C.

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