



DEV Nutrient Agar

M1884

DEV Nutrient Agar is recommended for the enumeration of microorganisms in water, food and other materials. This medium can also be enriched with blood, other biological fluids like ascetic fluid, serum or other supplements to promote growth of fastidious organisms.

Composition**

| Ingredients | Gms / Litre |
|---------------------|-------------|
| Meat peptone | 10.000 |
| Meat 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

Directions

Suspend 43 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 into sterile Petri plates or dispense as desired.

Principle And Interpretation

DEV Nutrient Agar is a nonselective 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.

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

| | | | |
|--|--------|----------------|-------|
| <i>Escherichia coli</i> ATCC 25922 | 50-100 | good-luxuriant | >=70% |
| <i>Pseudomonas aeruginosa</i> ATCC 27853 | 50-100 | good-luxuriant | >=70% |
| <i>Salmonella Typhimurium</i> ATCC 14028 | 50-100 | good-luxuriant | >=70% |
| <i>Salmonella Typhi</i> ATCC 14028 | 50-100 | good-luxuriant | >=70% |
| <i>Klebsiella pneumoniae</i> ATCC 13883 | 50-100 | good-luxuriant | >=70% |
| <i>Serratia marcescens</i> ATCC 14756 | 50-100 | good-luxuriant | >=70% |
| <i>Aeromonas hydrophila</i> ATCC 7966 | 50-100 | good-luxuriant | >=70% |
| <i>Proteus vulgaris</i> ATCC 13315 | 50-100 | good-luxuriant | >=70% |
| <i>Staphylococcus aureus</i> ATCC 25923 | 50-100 | good-luxuriant | >=70% |
| <i>Bacillus subtilis</i> 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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