

DEV Nutrient Agar, Granulated

GM1884

DEV Nutrient Agar, granulated 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. Cool to 45-50°C. 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 coloured granular medium

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
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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</i> Typhimurium ATCC 14028	50-100	good-luxuriant	>=70%
<i>Salmonella</i> Typhi 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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