MT7 Agar

M2075

Intended use

Recommended for growth and recovery of injured *E.coli* and total coliforms from water samples by membrane filtration.

Composition**

Ingredients	Gms / Litre
Proteose peptone	5.000
Yeast extract	3.000
Lactose	20.00
Tergitol 7	0.400
Polyoxyethylene ether	5.000
Bromothymol blue	0.100
Bromocresol purple	0.100
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 48.60 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. Cool to 45-50°C . Mix well and pour into sterile Petri plates.

Principle And Interpretation

MT7 Agar is recommended by APHA for water testing to detect *Escherichia coli* and total coliforms from water by membrane filtration technique (3),

Proteose peptone and yeast extract supplies nitrogenous and carbonaceous compounds, long chain amino acids, vitamins and other essential growth nutrients to the organisms. Lactose is the fermentable carbohydrate. Bromothymol blue and Bromocresol purple are the pH indicators. Lactose fermenting colonies turn yellow while lactose non-fermenters turn blue to purple. Tergitol 7 and Polyoxyethylene ether inhibits gram-positive organisms.

Type of specimen

Water samples

Specimen Collection and Handling:

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (1).

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. Due to nutritional variation, some strains may show poor growth

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Light yellow to greyish purple homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium
Greyish purple clear to slightly opalescent gel forms in Petri plates.

Reaction
Reaction of 4.86% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH
7.20-7.60

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

Organism	Inoculum (CFU)	Growth	Colour of Colony (membrane)
Escherichia coli ATCC 25922 (00013*)	50-100	luxuriant	yellow
# Klebsiella aerogenes ATCC 13048 (00175*)	50-100	luxuriant	yellow
Klebsiella pneumoniae ATCC 13883 (00097*)	50-100	luxuriant	yellow
Salmonella Enteritidis ATCC 13076 (00031*)	50-100	luxuriant	blue to purple
Staphylococcus aureus subsp. *aureus* ATCC 25923 (00034*)	>=10^4	inhibited	

Key : * Corresponding WDCM numbers, # Formerly known as *Enterobacter aerogenes*

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (2, 3).

Reference

1. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.

2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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