mTEC (Thermotolerant Escherichia coli) Agar

Medium used for the isolation and identification of thermotolerant *Escherichia coli* from water by membrane filter method.

• CONTENTS (Liter)

Proteose Peptone No.3	5.0 g
Yeast Extract	3.0 g
Lactose	10.0 g
Sodium Chloride	7.5 g
Dipotassium Phosphate	3.3 g
Monopotassium Phosphate	1.0 g
Sodium Lauryl Sulfate	0.2 g
Sodium Desoxycholate	0.1 g
Bromocresol Purple	0.08 g
Bromophenol Red	0.08 g
Agar	15.0 g

Final pH = 7.0 ± 0.2 at 25°C

• PROCEDURE

Suspend 45.26 G of powder in 1 L of distilled or deionized water. Heat to boiling until completely dissolved. Sterilize by autoclave at 121°C for 15 minutes. Cool to 45 - 50°C in water bath. Mix well. Pour into petri dishes.

• INTERPRETATION

mTEC (Thermotolerant Escherichia coli) Agar is a medium used for the isolation and identification of thermotolerant *Escherichia coli* from water by membrane filter method. Proteose peptone No.3, yeast extract are the carbon, nitrogen and vitamin sources. Lactose is a fermentable carbohydrate. Sodium chloride maintains the osmotic balance. Phosphates are the buffering agents. Sodium lauryl sulfate and sodium desoxycholate inhibit Gram-positive bacteria. Bromocresol purple and bromophenol red are the pH indicators. Agar is the solidifying agent.

• TECHNIC

Inoculate the specimen using a sterile loop to the medium or inoculate by membrane filter method. Incubate at 35 ± 2°C for 2 hours and then 44.5 ± 0.5°C for 20 - 24 hours. To identify presumptively *Escherichia coli*, observe urease reaction by transferring countable filters to pads saturated with urea substrate. (Urea substrate: dissolve 2 g of urea and 0.01 g of phenol red in 100 mL of purified water and adjust the pH to 5.0 ± 0.2). After 15 - 20 minutes, count yellow to yellow-brown colonies. Refer appropriate references for recommended test procedure.

• QUALITY CONTROL FOR USE

Dehydrated medium
Appearance: free-flowing, homogeneous
Color: grayish pink
Prepared medium
Appearance: slightly opalescent
Color: deep purple with red cast
Incubation conditions: 35 ± 2°C / 2 hours and then 44.5 ± 0.5°C / 20 - 24 hours

Microorganism	ATCC	Inoculum CFU	Growth	Characteristics
Escherichia coli	8739	50-100	good	yellow to yellow-brown
Enterococcus faecalis	29212	≥10^3	partially inhibited	-
Pseudomonas aeruginosa	27853	≥10^3	partially inhibited	-

• STORE

The powder is very hygroscopic. Store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the label. Store prepared medium at 2 - 8°C.

• REFERENCES

1. Pugsley, Evision and James. 1973. Water Res. *7:1431.*
2. Dufour, Strickland and Cabelli. 1981. Appl. Environ. Microbiol. *41:1152.*
3. Clesceri, Greenberg and Eaton (ed.). 1998. Standard methods for the examination of water and wastewater. 20th ed. American Public Health Association, Washington, D.C.
4. American Society for Testing and Materials. 1996. Annual Book of ASTM Standards. Water and Environmental Technology (PCN: 01-110296-16). ASTM, West Conshohocken, Pa.
5. Mara. 1973. J. Hyg. *71:783.*

• PACKAGE

Cat. No : MB-T1031-1 mTEC (Thermotolerant Escherichia coli) Agar	100 G
Cat. No : MB-T1031 mTEC (Thermotolerant Escherichia coli) Agar	500 G