

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
<i>Escherichia coli</i>	8739	50-100	good	yellow to yellow-brown
<i>Enterococcus faecalis</i>	29212	≥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, Evison 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