

Technical Data Sheet

m-Endo Total Coliform Broth – 2mL Liquid Media Ampoules Cat. No. MHA000P2E

This medium is recommended for Total Coliform detection in water samples.

Mode of Action

m-Endo Total Coliform Broth is a selective and differential medium used for the estimation of coliform bacteria in water samples by membrane filtration technique. The media enables differentiation between lactose fermenters and non-fermenters and the use of sodium sulfite and basic fuchsin instead of bile salts inhibits the growth of gram-positive bacteria. Lactose fermenting bacteria produce acetaldehyde that reacts with the sodium sulfite and fuchsin to form red colonies. The development of a metallic sheen occurs when the organism produces aldehydes with the rapid fermentation of lactose. Lactose non-fermenters form colorless colonies.

Typical Composition (per liter of purified water)

Tryptose	10.0 g	Monopotassium Phosphate	1.375 g
Peptic Digest of Animal Tissue	5.0 g	Sodium Lauryl Sulfate	0.05 g
Pancreatic Digest of Casein	5.0 g	Sodium Desoxycholate	0.1 g
Yeast Extract	1.5 g	Sodium Sulfite	2.1 g
Lactose	12.5 g	Basic Fuchsin	1.05 g
Sodium Chloride	5.0 g	Ethanol 95	20.0 ml
Dipotassium Phosphate	4.375 g		

Application

1. Collect the water sample in a sterile container. Sodium thiosulfate is necessary when the water sample contains a residual disinfectant. The sample should be a 100 ml minimum.
2. Invert one m-Endo Total Coliform Broth ampoule 2 to 3 times. Open the ampoule. Remove the lid of a petri dish and carefully pour the contents equally onto the absorbent pad.
3. Set up the membrane filtration apparatus. Use sterile forceps to put the membrane filter in the assembly. The grid side is up.
4. Invert the sample / diluted sample for approximately 30 seconds to thoroughly mix the sample.
5. Pour the sample / diluted sample into the funnel. If the volume is less than 20ml, add 10 ml of sterile buffered dilution water to the funnel.
6. Apply the vacuum until the funnel is empty. Then stop the vacuum.
7. Rinse the funnel with 20ml to 30ml of sterile buffered dilution water. Apply the vacuum. Rinse the funnel two more times.
8. Stop the vacuum when the funnel is empty. Remove the funnel from the assembly. Use sterile forceps to lift the membrane filter.
9. Put the membrane filter on the absorbent pad. Let the membrane filter bend and fall equally across the absorbent pad to make sure that the air bubbles are not trapped below the filter.
10. Secure the lid on the petri dish and invert the dish.
11. Incubate the inverted petri dish for 24 +/- 2 hours at 35 +/- 0.5° C.
12. Remove the petri dish from the incubator. Use a microscope to count the number of bacteria colonies on the membrane filter.
13. Interpret and report the results.

Results Reporting

Report the colony density as the number of colonies in 100ml of sample. If there's more than 200 colonies, dilute the sample and use the diluted sample in the test procedure.

Colonies in 100ml = Colonies counted / ml of sample x 100.

Storage and Shelf Life

The product can be used until the expiry date if the unopened ampoules are stored sealed in the aluminum foil bag at 2 – 10°C.

Disposal

Please dispose of used culture medium in accordance with local regulations (e.g. autoclave for 20 min at 121 °C, disinfect, incinerate etc.).

Quality Control

Function	Control Strains	Incubation	Reference Medium	Method of Control	Expected Results
Productivity	Escherichia coli ATCC® 25922 WDCM 00013	24 +/- 2 hours at 35 +/- 0.5° C	Previously validated batch of m-Endo Total Coliform Broth	Quantitative	Recovery 85- 115% Characteristic colonies
Selectivity	Mixed culture, (E. coli, Ps aeruginosa, and Pr. Vulgaris)			Qualitative	Recovery of E. coli with other organisms inhibited

Please refer to the actual batch specific certificate of analysis.

Escherichia coli colonies are deep red colonies with a metallic green sheen.

Ps aeruginosa colonies are small colorless to pink.

Pr vulgaris colonies are small and colorless.



m-Endo Total Coliform Broth

Ordering Information

Product	Cat. No.	Pack size
m-Endo Total Coliform Broth	MHA000P2E	50 x 2 mL plastic ampoules

Literature

Fifield CW and Schaufus CP (1958): Improved membrane filter medium for the detection of coliform organisms. American Water Works Association. 50: 2. 193-196.

Manafi M (2011): Enterobacteriaceae, Coliforms and Escherichia coli from Foods. Handbook of Culture Media for Food and Water Microbiology. Royal Society of Chemistry. 233.

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