

M-Endo Medium

Catalog : HB0138-4-250

M-Endo Medium is used for enumerating coliform organisms in water by membrane filtration.

Approximate Formula:

Ingredients	gm/liter
Tryptone	10.0
Peptone	10.0
Yeast Extract	1.5
Lactose	12.5
Sodium Chloride	5.0
Dipotassium Phosphate	4.375
Monopotassium Phosphate	1.375
Sodium Lauryl Sulfate	0.05
Sodium Desoxycholate	0.1
Sodium Sulfite	2.1
Basic Fuchsin	1.05
Final pH7.2±0.2 at 25°C	

*Adjusted and/or supplemented as required to meet performance criteria.

Directions:

Suspend 48.0g of the medium and 20ml of absolute ethyl alcohol in 980ml of distilled water or deionized water. Mix well and heat with frequent agitation to completely dissolve the powder. Sterilize in an autoclave at 121 °C (15 lbs.) for 15 minutes

Principle and Interpretation:

M-Endo Medium enables differentiation between lactose fermenters and non-fermenters. The use of sodium sulfite and basic fuchsin instead of bile salts inhibits the growth of gram-positive bacteria. Peptone provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is a source of vitamins, particularly the B-group. 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.

Appearance:

Dehydrated medium is a free-flowing rose-red powder. The prepared medium is a kind of red transparent liquid.

Precautions:

This medium is for laboratory use only. Dried medium which is past shelf life, caking or color variation cannot be used.

Storage conditions and Shelf life:

M-Endo Medium must be stored tightly capped in the original container at 5-30°C. The dehydrated medium has a shelf life of 5 years from date of manufacturing. Prepared medium may be stored, out of direct light at 2-8°C.

Quality control:

Prepare the culture medium as per label directions. Inoculate and incubate at 36±1 °C for 24±2 hours.

Microorganism	Strains Number	Inoculum (CFU)	Growth	Recovery	Remarks
<i>Escherichia coli</i>	ATCC 25922	10-100	Luxuriant	≥70%	Rose-red, green metallic sheen
<i>Citrobacter freundii</i>	ATCC 43864	10-100	Luxuriant	≥70%	Pink to rose-red mucoid
<i>Escherichia coli</i>	ATCC 8739	10-100	Luxuriant	≥70%	Rose-red, green metallic sheen
<i>Salmonella typhimurium</i>	ATCC 14028	> 10 ³	Luxuriant	/	Colorless to pale pink colonies
<i>Enterococcus faecalis</i>	ATCC 29212	> 10 ³	Poor-inhibited	/	/

References:

1. Fildes CW and Schaufus CP (1958): Improved membrane filter medium for the detection of coliform organisms. American Water Works Association. 50: 2. 193-196.
2. Manafi M (2011): Enterobacteriaceae, Coliforms and *Escherichia coli* from Foods. Handbook of Culture Media for Food and Water Microbiology. Royal Society of Chemistry. 233.