

TM 773 - M-ENDO BROTH MF (MF ENDO MEDIUM) (M-COLIFORM BROTH)

INTENDED USE

For enumeration of coliform bacteria in water samples using one step membrane filter technique.

PRODUCT SUMMARY AND EXPLANATION

The filtration technique play role in removing bacteria from fluids when passed through small pore size filters and bacteria are arrested. It enables to pass large volumes of water rapidly under pressure without passing bacteria. The retained nutrients on the surface of the membrane is incubated with suitable liquid nutrients and diffusion occurs in upward direction through the pores thereby inducing the organisms to grow as surface colonies which can be counted. Endo Medium was first developed by Endo to differentiate between lactose-fermenters and non-fermenters.

Through membrane filtration technique M-Endo broth is used for the estimation of coliform bacteria in water samples. Endo developed Endo Medium which differentiated between lactose-fermenters and non-fermenters. This medium doesn't opt bile salts for inhibition of gram-positive bacteria. M-Endo Broth MF is a selective and differential medium for the detection of coliforms by the membrane filter technique. M-Endo Broth MF doesn't require the preliminary enrichment on a non-selective medium and therefore this is a medium of choice for the determination of coliform bacteria in water and other specimens by one step filtration technique.

COMPOSITION

Ingredients	Gms / Ltr
Peptone special	5.000
Tryptose	10.000
Lactose	12.500
Yeast extract	1.500
Casein enzymic hydrolysate	5.000
Basic fuchsin	1.050
Sodium sulphite	2.100
Sodium deoxycholate	0.100
Sodium lauryl sulphate (SLS)	0.050
Sodium chloride	5.000
Dipotassium phosphate	4.375
Monopotassium phosphate	1.375

PRINCIPLE

Nitrogenous source and other essential nutrients are provided by the casein enzymic hydrolysate, tryptose, peptone special and yeast extract for the coliforms. Lactose is the fermentable carbohydrate. Sodium sulphite, sodium deoxycholate and basic fuchsin are known to inhibit the growth of gram-positive organisms. Phosphates buffer the medium. Coliforms ferment lactose and the resulting acetaldehyde which reacts with sodium sulphite and basic fuchsin to form red colonies and similar coloration of the medium. Lactose non-fermenters form colorless colonies.

INSTRUCTION FOR USE

- Dissolve 48.00 grams in 1000 ml distilled water containing 20 ml ethanol.
- Heat the medium completely to dissolve if necessary. Do not autoclave.



- Cool to room temperature and dispense about 2 ml onto sterile absorbent pads. This medium should be used on the same day it is prepared and should be protected from bright light.

Caution: Basic fuchsin is a potential carcinogen, avoid inhalation and contamination of the skin.

QUALITY CONTROL SPECIFICATIONS

- Appearance of Powder** : Light pink to purple homogeneous free flowing powder
Appearance of prepared medium : Pinkish red colored opalescent solution in tubes
pH (at 25°C) : 7.2 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of the colony (on membrane filter)	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	2592 2	50-100	Good-luxuriant	>=50%	Pink with metallic sheen	35-37°C	18-48 Hours
<i>Klebsiella aerogenes</i>	1304 8	50-100	Good-luxuriant	>=50%	Pink to red (may have sheen)	35-37°C	18-48 Hours
<i>Salmonella Typhi</i>	6539	50-100	Luxuriant	>=70%	Colorless to very light pink	35-37°C	18-48 Hours
<i>Staphylococcus aureus</i>	2592 3	50-100	Inhibited	0%	-	35-37°C	18-48 Hours
<i>Klebsiella pneumoniae</i>	1388 3	50-100	Good-luxuriant	>=50%	Pink to red	35-37°C	18-48 Hours
<i>Salmonella Typhimurium</i>	1402 8	50-100	Luxuriant	>=70%	Colorless to very light pink	35-37°C	18-48 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.



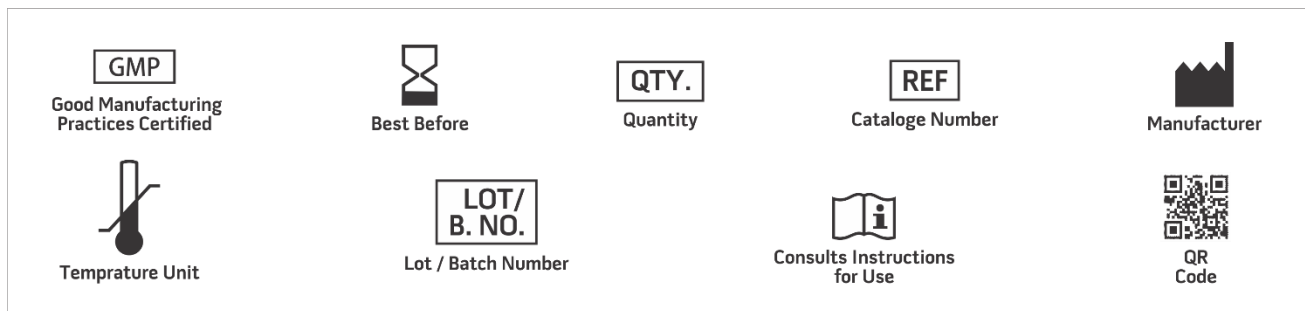
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Cruickshank R., Duguid J. P., Marmion B. P., Swain R. H. A., (Eds.), Medical Microbiology, 1975, 12th Ed. Vol. II, ChurchillLivingstone
2. Endo S., 1904, Zentralbl. Bakteriol., Abt. 1, Orig.35:109-110.
3. Fifield C. W. and Schaufus C. P., 1958, J. Am. Water Works Assoc. 50:193.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
Revision: 08 Nov., 2019