TM 2183 - M-EMB BROTH

INTENDED USE
For the detection of members of the coliform group by the membrane filter technique.

PRODUCT SUMMARY AND EXPLANATION
For monitoring water samples, the membrane filter technique is extremely useful. The coliform group are facultative anaerobic, gram-negative, rod-shaped bacteria, non-spore-forming, that develop red colonies with a metallic sheen on an Endo-type medium containing lactose, within 24 hours at 35-37°C. M-EMB Broth is a selective differential medium and detect the members of the coliform group by membrane filtration. Clark et al formulated M-EMB Broth.

COMPOSITION

Ingredients	Gms / Ltr
Proteose peptone	40.000
Yeast extract	6.000
Lactose	20.000
Sodium chloride	5.000
Bile salt mixture	1.000
Eosin - Y	4.000
Dipotassium phosphate	7.000
Methylene blue	1.330

PRINCIPLE
Yeast extract and proteose peptone act as sources of carbonaceous and nitrogenous growth nutrients. Lactose is fermentable carbohydrate and energy source. Bile salts mixture are the inhibitors of the accompanying non-coliforms. Sodium chloride maintains the osmotic equilibrium of the medium and dipotassium phosphate buffers the medium. Eosin-Y and methylene blue are the indicator system in the medium. These two dyes combine to form a precipitate in presence of lactose fermentation which leads to acidic pH. Eosin Y also functions as an inhibitor.
Membrane filters the test water sample that has been passed, which are initially incubated with M-Enrichment broth and enriched for 2 hours. These enriched cultures (filters) are further transferred onto sterile absorbent cotton pads saturated with 2 ml of M-EMB Broth. Incubation is done at 35-37°C for 18-24 hours. Lactose fermenting coliforms produce pink colored colonies and non-lactose fermenting coliforms will form colorless colonies.

INSTRUCTION FOR USE
- Dissolve 84.33 grams in 1000 ml distilled water.
- Gently heat, the medium completely if necessary to dissolve.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Autoclave sterilization is not required if the medium is used the same day of preparation.

QUALITY CONTROL SPECIFICATIONS
Appearance of Powder : Homogeneous free flowing powder, Pinkish purple to purple
Appearance of prepared medium : Green with orange cast, opalescent solution with a flocculent precipitate
pH (at 25°C) : 7.2 ± 0.2

INTERPRETATION
Cultural characteristics observed after incubation.

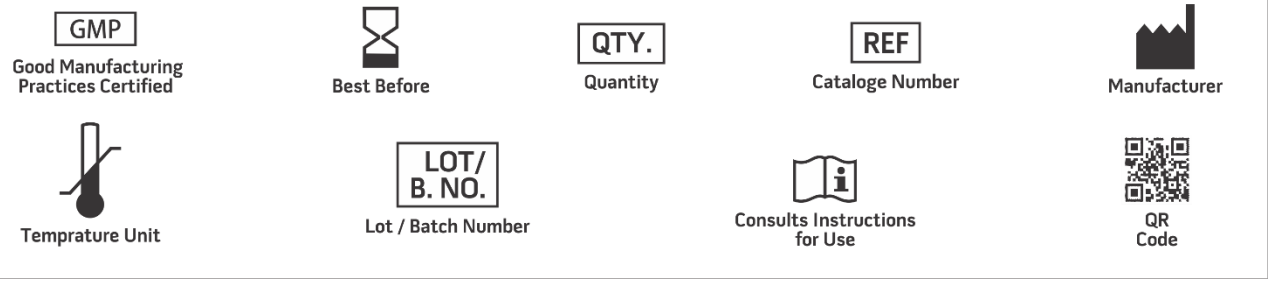
Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of the colony (on membrane filter)	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	>=70%	Purple with green metallic sheen, dark center	35-37°C	18-24 Hours
Enterobacter aerogenes	13048	50-100	Good	40-50%	Pink, no sheen	35-37°C	18-24 Hours
Klebsiella pneumoniae	13883	50-100	Good	40-50%	Purple	35-37°C	18-24 Hours
Proteus mirabilis	25933	50-100	Luxuriant	>=70%	Colorless	35-37°C	18-24 Hours
Salmonella Typhi	6539	50-100	Luxuriant	>=70%	Colorless	35-37°C	18-24 Hours
Staphylococcus aureus	25923	50-100	Inhibited	0%	-	35-37°C	18-24 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. Eaton A. D., Clesceri L. S. and Greenberg A. E., (Eds.), 1998, Standard Methods for the Examination of water and Wastewater, 20th Ed., American Public Health Association, Washington, D.C.
2. Clark H. F., Geldreich E. E., Jeter M. L. and Kabler P. W., Public Health Rep., 66, 951
3. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williamsand Wilkins, Baltimore.



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

***For Lab Use Only**

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