TM 2190 - M-HD ENDO BROTH

INTENDED USE
For detection of coliforms in water samples by membrane filter technique.

PRODUCT SUMMARY AND EXPLANATION
The coliform group consists of several genera of bacteria belonging to the family *Enterobacteriaceae*. Estimation or enumeration of these bacteria in water can be done by employing the membrane filter procedure. As related to the membrane filter technique, the coliform group is defined as those facultative anaerobic, gram-negative, non-spore forming rod shaped bacteria that develop red colonies with a metallic sheen at 35°C within 24 hours on an Endo- type medium containing lactose. M-HD Endo Broth is formulated as per Hajna and Damon and is used for the estimation of coliforms in water samples by membrane filtration technique.
Sterile cotton absorbent pads are saturated with around 2 ml of M-HD Endo Broth. Membrane filter through which the test water sample has been passed is aseptically placed on these saturated absorbent cotton pads containing the medium. Following an incubation at 35-37°C for 18-24 hours, lactose fermenting coliforms produce pink to rose red colonies with similar colouration to the medium. Non-lactose fermenting coliforms form colourless to faint colonies against the pink background.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	10.000
Peptic digest of animal tissue	10.000
Yeast extract	3.000
Lactose	20.000
Sodium deoxycholate	0.200
Sodium chloride	5.000
Dipotassium phosphate	6.000
Sodium sulphite	2.100
Basic fuchsin	0.840

PRINCIPLE
M-HD Endo Broth contains casein enzymic hydrolysate, peptic digest of animal tissue and yeast extract as source of essential nutrients including vitamins and B-complex nutrients. Lactose is the fermentable carbohydrate and energy source. Sodium deoxycholate is the selective agent, which helps to inhibit non-coliform bacteria. Sodium chloride maintains the osmotic equilibrium of the medium while dipotassium phosphate buffers the medium. Lactose-fermenting coliforms produce aldehyde and acid. The aldehyde in turn liberates fuchsin from the fuchsin-sulphite complex, giving rise to red coloured colonies. With *Escherichia coli*, this reaction is more pronounced as the fuchsin crystallizes, exhibiting a permanent greenish metallic luster (fuchsin luster) to the colonies.

INSTRUCTION FOR USE
- Dissolve 57.14 grams in 1000 ml distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense as desired. Do not autoclave.
- Use on the same day of preparation.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light pink to purple homogeneous free flowing powder
Appearance of prepared medium : Light pink coloured clear solution without any precipitate
pH (at 25°C) : 7.5±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony (on membrane filter)	Incubation Temperature	Incubation Period
Escherichia coli	*25922*	50-100	luxuriant	>=70 %	red to black with metallic sheen	35-37°C	18-24 Hours
Enterobacter aerogenes	*13048*	50-100	luxuriant	>=70 %	red to black	35-37°C	18-24 Hours
Salmonella Typhi	*6539*	50-100	luxuriant	>=70 %	colourless	35-37°C	18-24 Hours
Staphylococcus aureus	*25923*	>=10^3	inhibited	0 %	-	35-37°C	18-24 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

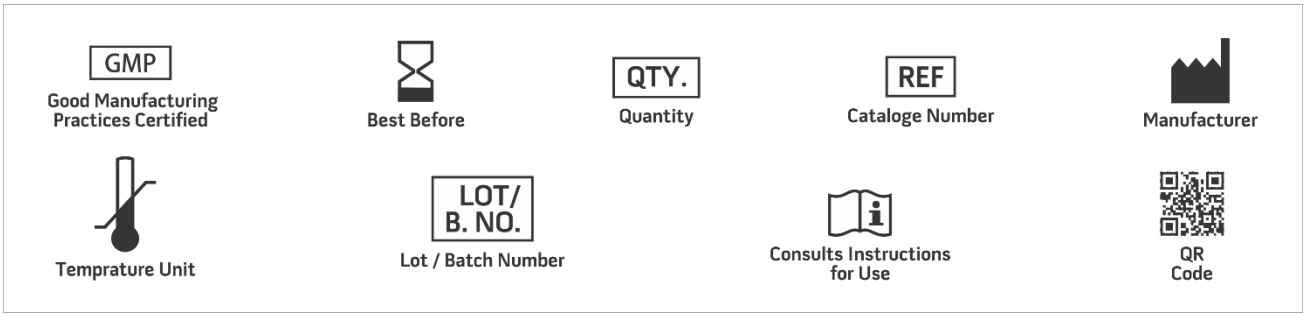
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided 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., (Ed.), 1998, Standard Methods for the Examination of water and Wastewater, 20th Ed. American Public Health Association, Washington, D.C.
2. Hajna A. A. and Damon S. R., 1954, Public Health Rep., 69, 58
3. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and 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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