TM 2195 - M-MACCONKEY BROTH

INTENDED USE

For detection of lactose fermenting and nonfermenting enteric bacteria using membrane filter technique.

PRODUCT SUMMARY AND EXPLANATION

MacConkey broth is widely used as a differential medium for detection and enumeration of coliforms from wide variety of clinical samples, food, water etc. which can be identified by colour change of the medium specific to the indicator used.

M-MacConkey Broth is recommended for the detection and enumeration of lactose fermenting enteric bacteria from milk and water using membrane filter technique. Saturate sterile absorbent cotton - pads with M-MacConkey Broth. The membrane filter is then aseptically placed on the saturated sterile absorbent cotton pads.

COMPOSITION

Ingredients	Gms / Ltr
Peptic digest of animal tissue	10.000
Bile salts	4.000
Sodium chloride	5.000
Lactose	30.000
Bromocresol purple	0.120

PRINCIPLE

Peptic digest of animal tissue provides necessary nitrogen source. Lactose serves as fermentable carbohydrate source. Sodium chloride maintains osmotic balance of the cells. The selective action of this medium is attributed to bile salts, which are inhibitory to most species of gram-positive bacteria. Gram-negative bacteria usually grow well on the medium and are differentiated by their ability to ferment lactose. The colour change of the medium shown by lactose fermentors is due to production of acid from lactose and a subsequent colour change of the dye when the pH of medium falls below 6.8. Lactose non-fermenting strains, such as *Shigella* and *Salmonella* do not alter the appearance of the medium. Due the presence of bromocresol purple in the medium, *Escherichia coli* changes the colour of the medium to yellow due to lactose fermentation and colourless to slight pink in case of nonfermenters.

INSTRUCTION FOR USE

- Dissolve 49.12 grams in 1000 ml distilled water.
- Heat if necessary to dissolve the medium completely.
- Distribute into tubes with inverted Durham tubes and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder

Appearance of prepared medium : Purple coloured clear solution without any precipitate

pH (at 25°C) : 7.4±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

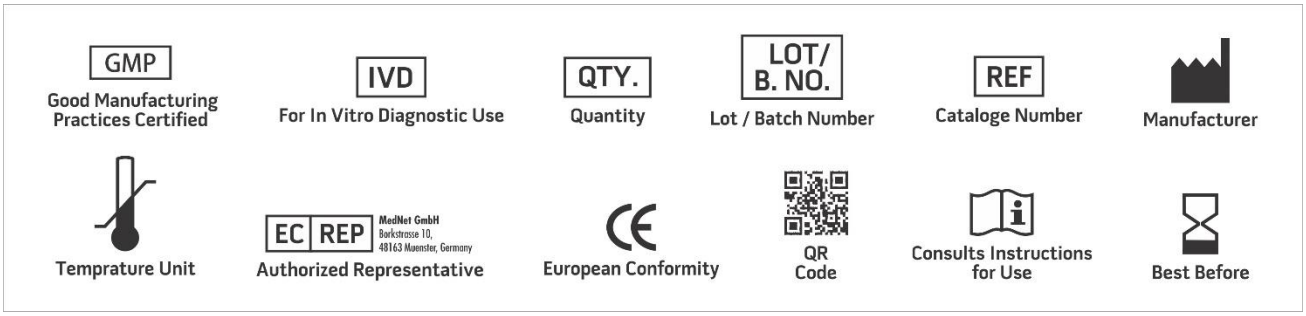
Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony (on membrane filter)	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	luxuriant	>=70 %	yellow	35-37°C	18-24 Hours
Enterobacter aerogenes	13048	50-100	luxuriant	>=70 %	yellow	35-37°C	18-24 Hours
Salmonella Typhimurium	14028	50-100	fair-good	20-40%	colourless to slightly pink	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. MacConkey, 1900, The Lancet, ii:20.
2. MacConkey, 1905, J. Hyg., 5:333.
3. Harrigan W.F. and McCance M.E. (Eds.), 1976, Laboratory Methods in Food and Dairy Microbiology, Academic Press, London.



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

***For Lab Use Only**

Revision: 08 Nov., 2019