TMH 110 - MacCONKEY AGAR (as per USP/EP/JP/BP/IP)

INTENDED USE

For isolation, enumeration and enrichment of Enterobacteriaceae.

PRODUCT SUMMARY AND EXPLANATION

MacConkey Agar is used for the isolation, enumeration and enrichment of Enterobacteriaceae. The medium is designed to selectively isolate Gram-negative and enteric (normally found in the intestinal tract) bacilli and differentiate them based on lactose fermentation. Subsequently, MacConkey Agar is recommended for use in microbiological examination of foodstuffs and for direct plating / inoculation of water samples for coliform counts. This media is also accepted by the Standard Methods for the Examination of Milk and Dairy Products and pharmaceutical preparations. The medium is prepared in accordance with the harmonized method of USP/EP/JP/BP/IP.

COMPOSITION

Ingredients	Gms / Ltr
Peptic digest of animal tissue	17.000
Agar	13.500
Lactose	10.000
Sodium chloride	5.000
Proteose peptone	3.000
Bile salts	1.500
Neutral red	0.030
Crystal Violet	0.001

PRINCIPLE

Pancreatic digest of gelatin and Proteose peptone supply the necessary nutrients, vitamins and nitrogenous factors required for the growth of microorganisms. Lactose has been used at a concentration of 1% (wt/vol.) to detect acidification against the alkalinization caused by peptone catabolism. Neutral red is added to differential media as a pH indicator, to detect changes in hydrogen ion concentration during the growth of an organism as lactose fermentation occurs. Neutral red will change color as the pH changes. Agar is a solidifying agent. Sodium chloride is added to maintain the osmotic balance in the medium. Bile salt and crystal violet provides selectivity against most species of gram-positive bacteria. Lactose fermenting strains grow as red or pink colonies whereas non lactose fermenters grow as colourless colonies.

INSTRUCTION FOR USE

- Dissolve 50.03 grams of the medium in 1000 ml distilled water.
- Gently heat to boiling with swirling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi (at 121°C) for 15 minutes.
- Cool to 45 - 50°C.
- Mix well and pour into sterile Petri plates

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	:	Light yellow to pink colour, homogeneous free flowing powder
Appearance of prepared medium	:	Red with purplish tinge colour, clear to slightly opalescent gel
pH (at 25°C)	:	7.1±0.2

INTERPRETATION

Culture characteristics observed after incubation period

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of colony	Recovery	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	Pink-red with bile precipitate	≥50%	30-35°C	18–72 Hours
Escherichia coli	8739	50-100	Luxuriant	Pink-red with bile precipitate	≥50%	30-35°C	18–72 Hours
#Klebsiella aerogenes	13048	50-100	Luxuriant	Pink-Red	≥50%	30-35°C	18–72 Hours
Proteus vulgaris	13315	50-100	Luxuriant	Colourless	≥50%	30-35°C	18–72 Hours
Salmonella typhimurium	14028	50-100	Luxuriant	Colourless	≥50%	30-35°C	18–72 Hours
Shigella flexneri	25931	50-100	Good	Colourless	30-40%	30-35°C	18–72 Hours
Enterococcus faecalis	29212	50-100	None-Poor	Pale pink	≤10%	30-35°C	18–72 Hours
Staphylococcus aureus	25923	≥1000	Inhibited	-	0%	30-35°C	18–72 Hours
Staphylococcus aureus	6538	≥1000	Inhibited	-	0%	30-35°C	18–72 Hours

Formerly known as Enterobacter aerogenes

PACKAGING

In100 &500 gm packaging size.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°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 powder show evidence of microbial contamination, discoloration, drying, or other signs of deterioration.

DISPOSAL

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

REFERENCES

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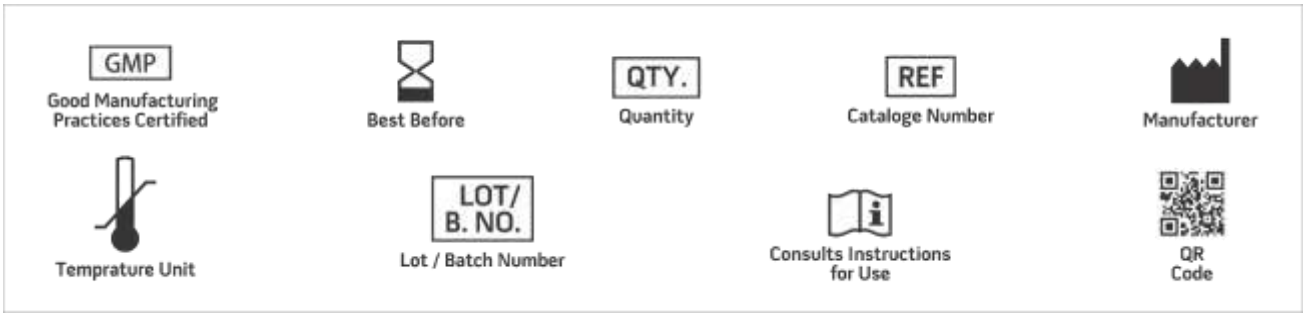
4. Baird, R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
5. Wehr, H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C. Isenberg,
6. H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
7. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.



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

***For professional use only.**

Revision: 10th July 2020