

TMHV 110 - MacCONKEY AGAR (as per USP/EP/JP/BP/IP) (VEG.)

INTENDED USE

For isolation, enumeration and enrichment of Enterobacteriaceae.

PRODUCT SUMMARY AND EXPLANATION

MacCONKEY AGAR (Veg.) 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 |
|---------------------|-----------|
| Veg. hydrolysate | 20.000 |
| Agar | 13.500 |
| Lactose | 10.000 |
| Sodium chloride | 5.000 |
| Synthetic detergent | 1.500 |
| Neutral red | 0.030 |
| Crystal Violet | 0.001 |

PRINCIPLE

Veg. hydrolysate 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 alkalization 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. Synthetic detergent 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 colorless colonies.

INSTRUCTION FOR USE

- Dissolve 50.03 grams of the medium in 1000 ml distilled water.
- Gently heat to boiling with gentle swirling and 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 Dehydrated 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.

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

Formerly known as *Enterobacter aerogenes*

PACKAGING:

In 100 & 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.
6. Isenberg, 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.



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|  GMP Good Manufacturing Practices Certified |  Best Before |  Quantity |  Catalogue Number |  Manufacturer |
|  Temperature Unit |  Lot / Batch Number |  Consults Instructions for Use |  QR Code | |

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

***For professional use only.**

Revision: 10th July 2020