Technical Information

MacConkey Agar w/o CV w/ 0.5% Bile Salts

Product Code :DM 1008A

Application: MacConkey Agar w/o CV w/ 0.5% Bile Salts is recommended for the isolation and differentiation of lactose fermenting and lactose non-fermenting enteric bacteria.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	20.000
Lactose	10.000
Bile salts	5.000
Sodium chloride	5.000
Neutral red	0.075
Agar	12.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

MacConkey Agar Medium is one of the earliest selective and differential medium for cultivation of enteric microorganisms from different type type clinical specimens [2, 3]. Subsequently MacConkey Agar is recommended for use in microbiological examination of foodstuffs [4] and for direct plating / inoculation of water samples for coliform counts [5]. This medium is also extensively used by the Standard Methods for the Examination of Milk and Dairy Products [6] and in pharmaceutical preparations [1]. The original MacConkey Agar contains peptones, lactose bile salts and two dyes. MacConkey Agar w/o CV w/ 0.5% Bile salts is a modification of the original medium with the exception of crystal violet. Peptic digest of animal tissue serves as the source of essential nutrients. Lactose is the fermentable carbohydrate with neutral red serving as the pH indicator. Sodium chloride maintains the osmotic equilibrium of the medium. Bile salts serve to make the medium selective. Lactose fermenting strains grow as red or pink and may be surrounded by a zone of acid precipitated bile. The red colour is due to production of acid from lactose, absorption of neutral red 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* are colourless and transparent and typically do not alter appearance of the medium.

Methodology

Suspend 52 grams of powder media in 1000 ml distilled water. Shake well & heat boiling with gentle swirling to dissolve the agar completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Avoid overheating. Cool to 45-50°C and pour into sterile Petri plates. The surface of the medium should be dry when inoculated.

Quality Control

Physical Appearance
Light yellow to pink homogeneous free flowing powder

Gelling
Firm, comparable with 1.2% Agar gel

Colour and Clarity of prepared medium
Orange red coloured clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 5.2% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH Range:-
7.20-7.60

Cultural Response/Characteristics
DM 1008A:-Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hous.

Organism	Inoculum(CFU)	Growth	Recovery	Colour of Colony
Escherichia coli ATCC 25922	50-100	luxuriant	>=50%	pink to red with bile precipitate pink to red
Enterobacter aerogenes ATCC 13048	50-100	luxuriant	>=50%	Pale pink to red
Enterococcus faecalis ATCC 29212	50-100	fair-good	30-40%	Colourless
Proteus vulgaris ATCC 13315	50-100	luxuriant	>=50%	Colourless
Salmonella Paratyphi A ATCC 9150	50-100	luxuriant	>=50%	Colourless
Shigella flexneri ATCC 12022	50-100	fair-good	>=50%	Colourless
Salmonella Paratyphi B ATCC 8759	50-100	luxuriant	>=50%	Colourless
Salmonella Enteritidis ATCC 13076	50-100	luxuriant	>=50%	Colourless
Salmonella Typhi ATCC 6539	50-100	luxuriant	>=50%	Colourless
Staphylococcus aureus ATCC 25923	50-100	fair-good	30-40%	Pale pink to red

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. The United States Pharmacopoeia, XXI and the National Formulary, 16th Ed.,1985, United States Pharmacopeial Convention, Inc., Washington D.C.
2. MacConkey, 1900, The Lancet, ii:20.
3. MacConkey, 1905, J. Hyg., 5:333.
4. Downes F. P. and Ito K. (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
5. Greenberg A.E., Clesceri L.S. and Eaton A.D., (Eds.), 2001, Standard Methods for the Examination of Water and Wastewater, 21st ed., APHA, Washington, D.C.
6. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conforms solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate.
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.
- Do not use the products if it fails to meet specificatons for identity and performens parameters.