

## TM 1697- MacCONKEY AGAR MEDIUM (as per USP 31)

### INTENDED USE

For selective isolation and differentiation of lactose fermenting and non-lactose fermenting enteric bacteria

### PRODUCT SUMMARY AND EXPLANATION

MacConkey Agar is the earliest selective and differential medium for cultivation of coliform organisms. Subsequently MacConkey Agar and Broth have been recommended for use in microbiological examination of foodstuffs and for direct plating / inoculation of water samples for coliform counts. This medium is also accepted by the Standard Methods for the Examination of Milk and Dairy Products. British pharmacopoeia has recommended this medium for the subculture and identification of Escherichia coli. It is also cited as Agar Medium H. It is also recommended by and in accordance with the harmonized method of USP/BP/EP/JP.

### COMPOSITION

Ingredients	Gms / Ltr
Pancreatic Digest of Gelatin	17.000
Agar	13.500
Lactose Monohydrate	10.000
Sodium Chloride	5.000
Peptones (meat and casein)	3.000
Bile Salts	1.500
Neutral Red	0.030
Crystal Violet	0.001

### PRINCIPLE

Pancreatic digest of gelatin and peptones (meat and casein) provide the essential nutrients, vitamins and nitrogenous factors required for growth of microorganisms. Lactose monohydrate is the fermentable source of carbohydrate. The selective action of this medium is attributed to crystal violet and bile salts, which are inhibitory to most species of gram-positive bacteria. Sodium chloride maintains the osmotic balance in the medium.

### INSTRUCTION FOR USE

- Dissolve 49.53 gms in 1000 ml distilled water.
- Gently heat to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
- AVOID OVERHEATING.
- Cool to 45-50°C.
- Mix well before pouring into sterile Petri plates.

### QUALITY CONTROL SPECIFICATIONS

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

### INTERPRETATION

Culture characteristics observed after incubation period of 18 - 24 hours at 35 ± 2°C.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of colony	Recovery	Incubation Temp.	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	Pink with bile ppt.	≥ 70%	35 ± 2°C	18 - 24 hrs.
Proteus vulgaris	13315	50-100	Luxuriant	Colourless	≥ 70%	35 ± 2°C	18 - 24 hrs.
Salmonella typhimurium	14028	50-100	Luxuriant	Colourless	≥ 70%	35 ± 2°C	18 - 24 hrs.
Enterococcus faecalis	29212	50-100	Partial to complete inhibition	Pink	≤ 40%	35 ± 2°C	18 - 24 hrs.
Staphylococcus aureus	25923	≥ 1000	Inhibition	----	0%	35 ± 2°C	18 - 24 hrs.

### PACKAGING

In pack size of 500gm bottles.

### STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 10-25°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 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. Downes F P and Ito K(Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C
4. Eaton A. D., Clesceri L. S. and Greenberg A W.,(Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st ed., APHA, Washington, D.C.5. ,,
5. Wehr H M and Frank J H., 2004, Standard Methods for the Examination of Dairy Products, ,,17th ed., APHA Inc., Washington, D.C.
6. British Pharmacopoeia 2011, The Stationery office British Pharmacopoeia
7. The United States Pharmacopoeia 2011, The United States Pharmacopoeial Convention. Rockville, MD.
8. European Pharmacopoeia 2011, European Dept. for the quality of Medicines
9. Japanese Pharmacopoeia, 2008.

 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 QR Code	 Consults Instructions for Use	 Best Before

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

**\*For Lab Use Only**  
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