

## CM 22142 - MacCONKEY AGAR (IS: 5887 (Part I and II) 1976, reaffirmed 2005)

### INTENDED USE

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

### PRODUCT SUMMARY AND EXPLANATION

MacConkey Agar is a selective and differential medium used for the cultivation of enteric microorganism from a variety of foodstuffs and clinical specimens. It is also recommended for direct plating/ inoculation of water samples for coliform counts. This medium is recommended by BIS committee under the specifications IS:5887(Part I and Part II) - 1976.

### COMPOSITION

Ingredients	Gms / Ltr
Peptic digest of animal tissue	20.000
Agar	15.000
Lactose	10.000
Bile salts	5.000
Sodium chloride	5.000
Neutral red	0.070

### PRINCIPLE

The medium contains Peptic digest of animal tissue which provides the nitrogenous and other essential growth compounds. Sodium chloride maintains the osmotic balance of the cells. Gram-negative bacteria usually grow well on this media and are differentiated by their ability to ferment lactose. Lactose fermenting strains grow as red or pink and may be surrounded by zone of acid precipitated bile. The medium turns pink in case of lactose fermenters and yellow in case of non-lactose-fermenters, due to neutral red when the pH of the media 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. Bile salts is used as a selective agent. Agar is a solidifying agent.

### INSTRUCTION FOR USE

Dissolve 55.07 grams in 1000 ml distilled water.

Gently heat to boiling with gentle swirling and dissolve the medium completely.

Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.

Cool to 45-50°C and dispense as desired.

### QUALITY CONTROL SPECIFICATIONS

Appearance of Dehydrated powder

Appearance of Prepared medium- Basal medium : Light yellow to pink, homogeneous free flowing powder

pH (at 25°C) : Light Red colored, clear to slightly opalescent gel

: 7.5 ± 0.2

### INTERPRETATION



Cultural characteristics observed after an incubation. Recovery rate is considered 100% for bacteria growth on Soya Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
Klebsiella aerogenes	13048	50-100	Luxuriant	>=50%	Pale pink to red	35-37°C	18-24 hours
Escherichia coli	25922	50-100	Luxuriant	>=50%	Pink to red with bile precipitate	35-37°C	18-24 hours
Enterococcus faecalis	29212	50-100	Fair to good	30-40%	Pale pink to red	35-37°C	18-24 hours
Proteus vulgaris	13315	50-100	Luxuriant	>=50%	Colourless	35-37°C	18-24 hours
Salmonella Typhi	6539	50-100	Luxuriant	>=50%	Colourless	35-37°C	18-24 hours
Shigella flexneri	12022	50-100	Fair to good	30-40%	Colourless	35-37°C	18-24 hours
Staphylococcus aureus	25923	50-100	Fair to Good	30-40%	Pink to red	35-37°C	18-24 hours

#### PACKAGING

In 100 & 500 gm packaging size.

#### STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 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.

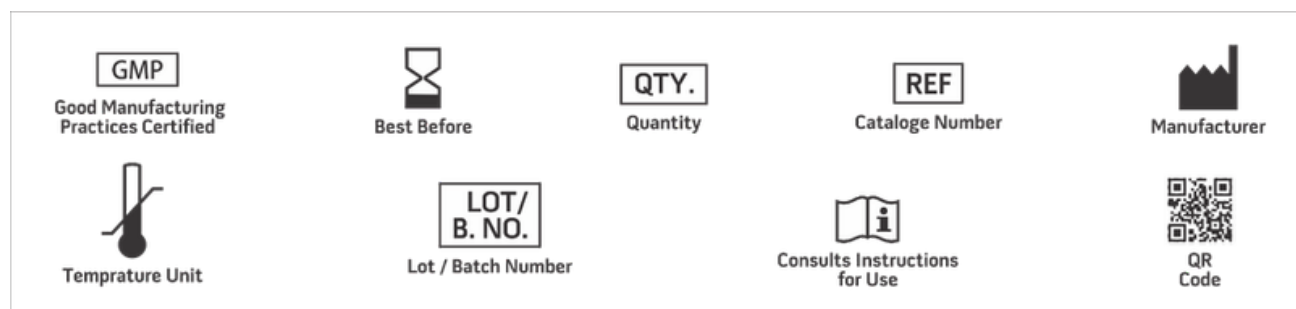
Product Deterioration: Do not use powder if they show evidence of microbial contamination, discoloration, drying, or other signs of deterioration.

#### DISPOSAL

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

#### REFERENCES

- Childs E, Allan LA. J Hyg Camb; 51: 468. (1953).
- Burman NP. Proc Soc Wat Treat Exam.; 4: 10-26. (1955).
- Ministry of Health, The Bacteriological Examination of Water Supplies; 4th Edition, London, H.M.S.O. (1969).
- Bureau of Indian Standards IS :5887 (Part II)- 1976, reaffirm 1986.
- MacConkey, 1905, J. Hyg., 5:333.
- MacConkey, 1900, The Lancet, ii:20.



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

