

CM 21,112 - MacCONKEY AGAR W/ MAGNESIUM SULPHATE

INTENDED USE

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

PRODUCT SUMMARY AND EXPLANATION

MacConkey Agar is the earliest selective and differential medium for cultivation of enteric microorganisms from a variety of clinical specimens. The original medium contains protein, bile salts, sodium chloride and two dyes. Selectivity of the medium is attributed to crystal violet and bile salts. MacConkey Agar contains lactose with neutral red to distinguish the lactose-fermenting coliforms from the lactose non-fermenting *Salmonella* and *Shigella* groups.

MacConkey Agar with Magnesium sulphate is a differential medium used for isolation and cultivation of gram-negative enteric organisms and gram-positive cocci from samples suspected of containing these organisms. This medium also limits the swarming of *Proteus* species due to the omission of sodium chloride.

COMPOSITION

Ingredients	Gms / Ltr
Pancreatic digest of gelatin	10.000
Yeast extract	10.000
Lactose	10.000
Oxgall	5.000
Magnesium sulphate	0.200
Neutral red	0.075
Agar	12.000

PRINCIPLE

Pancreatic digest of gelatin and yeast extract provide necessary nitrogen sources. Lactose is the fermentable carbohydrate. Oxgall serves to improve the selectivity of the medium. Gram-negative bacteria usually grow well on the medium and are differentiated by their ability to ferment lactose. Lactose fermenting strains grow as red or pink coloured colonies and may be surrounded by a zone of acid precipitated bile as found in the case of *Escherichia coli*. The red colour is due to production of acid from lactose, absorption of neutral red and a subsequent colour change of the neutral red dye when the pH of medium falls below 6.8. Lactose non-fermenting strains, such as *Shigella* and *Salmonella* appear as colourless and transparent colonies.

INSTRUCTION FOR USE

Dissolve 47.27 grams in 1000 ml distilled water.

Heat to boiling with gentle swirling to dissolve the medium completely.

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

Cool to 45 - 50°C and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Light yellow to pink homogeneous free flowing powder.
Appearance of prepared medium	: Red coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C)	: 7.4±0.2

INTERPRETATION



Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of Colony	Incubation Temperature	Incubation Period
Enterococcus faecalis	29212	50-100	Good	40-50%	Pink-red	35-37°C	18-24 Hours and Upto 48 Hours
Escherichia coli	25922	50-100	Good-luxuriant	>=50 %	Pink - red with bile precipitate	35-37°C	18-24 Hours and Upto 48 Hours
Proteus mirabilis	12453	50-100	Good-luxuriant	>=50 %	Colourless, no swarming	35-37°C	18-24 Hours and Upto 48 Hours
Salmonella Typhimurium	14028	50-100	Good-luxuriant	>=50 %	Colourless	35-37°C	18-24 Hours and upto 48 Hours
Salmonella Typhi	6539	50-100	Good	40-50%	Colourless	35-37°C	18-24 Hours and Upto 48 Hours
Shigella flexneri	12022	50-100	Good-luxuriant	>=50 %	Colourless	35-37°C	18-24 Hours and Upto 48 Hours

PACKAGING:

Inpacksize of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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 they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

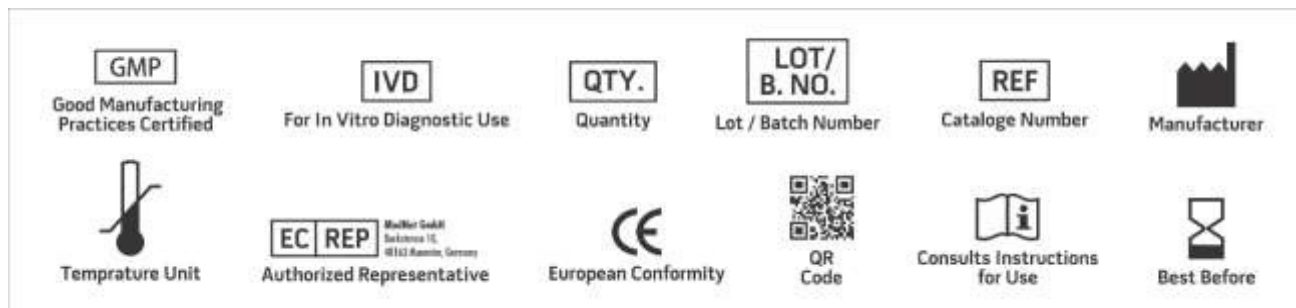
DISPOSAL

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

REFERENCES

1. MacConkey A., 1900, The Lancet, ii.20.
2. MacConkey A., 1905, J. Hyg, 8:333
3. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone





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