

CM 21,114 - MacCONKEY AGAR, MODIFIED

INTENDED USE

For isolation of *Klebsiella* species from water samples.

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. The selective action of this medium is attributed to crystal violet and bile salts, which are inhibitory to most species of gram-positive bacteria. *Klebsiella* species are often associated with coliforms in water supply distribution systems and are present as a major component in industrial wastes of paper mill, textile and other industries. Thom developed a medium based on MacConkey Agar in which lactose is replaced by inositol with the addition of 100µg of carbenicillin per ml. Bagley and Seidler (1978) devised a similar medium with only 50µg of carbenicillin per ml. In the modified MacConkey agar medium, inositol is incorporated in place of lactose while added carbenicillin makes the medium selective for *Klebsiella* species. Further, this method reduces the necessity for biochemical testing of pure strains; however, preliminary verification of differentiated colonies is recommended.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	17.000
Proteose peptone	3.000
Bile salts	1.500
Inositol	10.000
Sodium chloride	5.000
Crystal violet	0.001
Neutral red	0.030
Agar	13.500

PRINCIPLE

Peptones are sources of nitrogen and other nutrients. Inositol is a fermentable carbohydrate, bile salts and crystal violet are selective agents that inhibit growth of gram-positive organisms.

INSTRUCTION FOR USE

Dissolve 50.03 grams in 1000 ml purified/distilled water.
Heat to boiling to dissolve the medium completely. Do not autoclave or overheat.
Cool to 45-50°C and aseptically add two vials of *Klebsiella* Selective Supplement.
Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to pink homogeneous free flowing powder.
Appearance of prepared medium : Purplish red coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 7.1±0.2

INTERPRETATION

Cultural characteristics, after addition of 2 vials of *Klebsiella* Selective Supplement, observed after an incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
Enterobacter aerogenes	13048	>=103	Inhibited	0%	-	35-37°C	18-24 Hours
Escherichia coli	25922	>=103	Inhibited	0%	-	35-37°C	18-24 Hours
Klebsiella pneumoniae	13883	50-100	Luxuriant	>=70 %	Pink	35-37°C	18-24 Hours
Salmonella Typhi	6539	>=103	Inhibited	0%	-	35-37°C	18-24 Hours
Serratia marcescens	8100	>=103	Inhibited	0%	-	35-37°C	18-24 Hours

PACKAGING:

Inpacksizeof100 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.

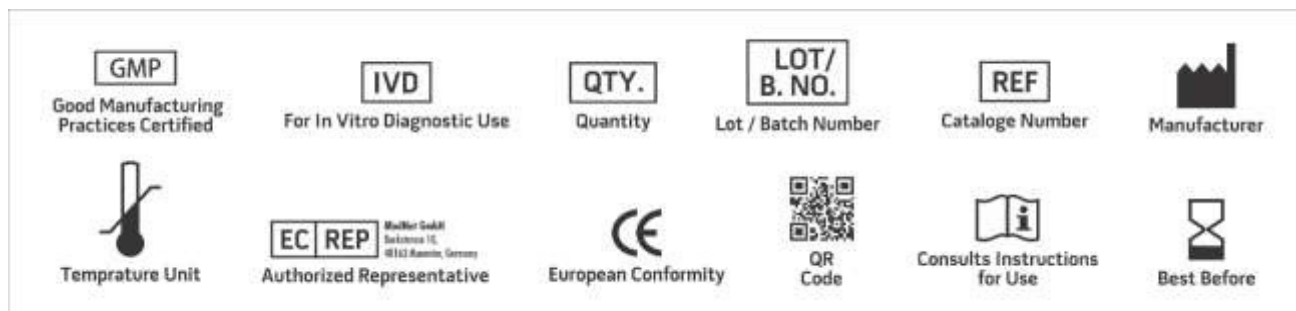
DISPOSAL

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

REFERENCES

1. Bagley S.T., Seidler R. J., Tablot H. W. and Morrow J. C., 1978, Appl. Environ. Microbiol., 36:178-185
2. 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.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
4. 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.
5. MacConkey, 1900, The Lancet, ii:20.
6. MacConkey, 1905, J. Hyg., 5:333.
7. Thom B. T., 1970, Lancet 2:1033





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