CM 22548 - MacCONKEY AGAR "TBL"

INTENDED USE

Forcultivation and differentiation of enteric bacteria and gram-positive microorganisms from clinical samples especially *Enterococcus faecalis* within18hours.

PRODUCT SUMMARY AND EXPLANATION

MacConkeyA gar is the earliest selectiveand differential medium for cultivation of enteric microorganisms from a variety of clinical specimens. Subsequently MacConkeyAgar has been recommended for use in microbiological examination of foodstuffs and for direct plating / inoculation ofwater samples for coliform counts. These media are also accepted by the Standard Methods for the Examination of Milkand Dairy Products and pharmaceutical preparations.

COMPOSITION

Ingredients	Gms / Ltr
Pancreatic digest of animal tissue	20.000
Agar	20.000
Lactose	10.000
Sodium taurocholate	5.000
Neutral red	0.04

PRINCIPLE

Peptic digestof animal tissue supplies the necessary amino acids and polypeptides, vitamins, coenzymes, minerals as well as additional nitrogen compounds. Lactose has been used at a concentration of 1% (wt./vol) to detect acidification against the alkalinization caused by peptone catabolism. The selective action of this medium is attributed to Sodium taurocholate, which are inhibitory to most species of gram-positive bacteria. In addition, this medium does not contain crystal violet allowing *Staphylococcus*, *Enterococcus* and *Mycobacterium* spp. to grow. This medium also does not contain Sodium chloride and therefore provides a "low electrolyte medium" which prevents *Proteus* spp. from spreading (swarming). Gram-negative bacteria usually grow well on the medium and are differentiated by their ability to ferment lactose. Neutral red will change colour as the pH changes. 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* spp. are colourless and transparent and typically do not alter appearance of the medium. *Yersinia enterocolitica* may appear as small, non-lactose fermenting colonies after incubation at room temperature.

INSTRUCTION FOR USE

Eithers treak,inoculateorsurface spread the test inoculum aseptically on the plate.

QUALITY CONTROL SPECIFICATIONS

Appearance	:	Orange red coloured medium
Quantity of Medium	:	25ml of medium in 90mm plates.
pH (at 25°C)	:	7.4 ± 0.2
Sterility Check	:	Passes release criteria

INTERPRETATION

Culturalresponsewasobserved after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colony Appearance	Incubation Temperature	Incubation Period
Escherichia coli	8739	50-100	Luxuriant	≥ 70%	Pink to red with bile precipitate	35-37°C	18-24 Hours
Enterococcus faecalis	29212	50-100	luxuriant	≥ 70%	Pale pink to red	35-37°C	18-24 Hours
Proteus vulgaris	13315	50-100	Luxuriant	≥ 70%	colourless	35-37°C	18-24 Hours
Staphylococcus aureus	25923	50-100	luxuriant	≥ 70%	Pale to pink	35-37°C	18-24 Hours
Salmonella typhi	6539	50-100	Luxuriant	≥ 70%	Colourless	35-37° C	18-24 Hours

PACKAGING:

Doubledlayered packing containing 5 No. of plates with one silica gel desiccant bag packed inside it.

STORAGE

Onreceipt,store the plates at 15–30 °C. Avoid freezing and overheating. Do not open until ready to use. Prepared plates stored in their original sleeve wrapping until just prior to use may be inoculated up to the expiration date and incubated for recommended incubation times. Allow the medium to warm to room temperature before inoculation.

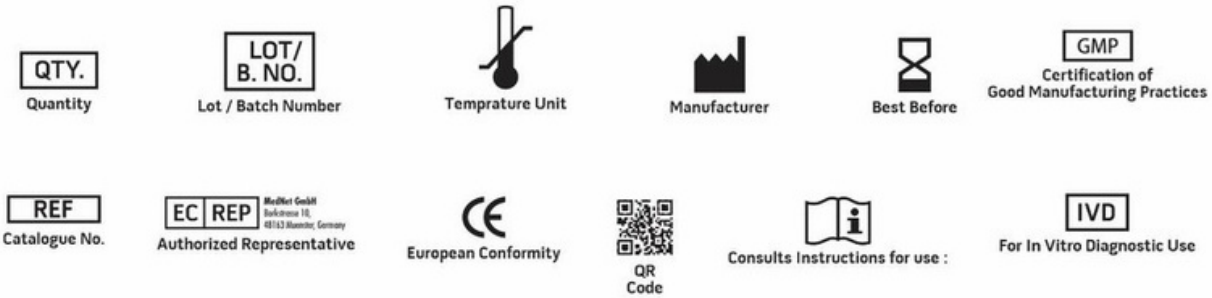
Product Deterioration: Do not use plates if they show evidence of microbial contamination, discoloration, drying, cracking or other signs of deterioration.

DISPOSAL

Afteruse,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. (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
4. Greenberg A. E., Clesceri L. S. and Eaton A. D., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st ed., APHA, Washington, D.C.
5. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
6. The United States Pharmacopoeia XXI and the National Formulary, 16th ed., 1985, United States Pharmacopoeial Convention, Inc., Washington, D.C.



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