CM 22661 – MacCONKEY AGAR (W/O CV, W/ 0.15% BILE SALTS & NaCl)

INTENDED USE

For selectivei solation and differentiation of lactose fermenting and lactose non-fermenting enteric pathogens

PRODUCTSUMMARYAND EXPLANATION

MacConkey Agar isthe earliest selectiveanddifferential medium for cultivation of enteric microorganisms from a variety of clinical specimens. The original MacConkeymedium was used to differentiate strains of *Salmonella typhosa* from members of the coliform group. Formula modifications improved the growth of *Shigella* and *Salmonella* strains. These modifications included the addition of 0.5% sodium chloride, decreased agar content, and altered bile salts and neutral red concentrations. The formula improvements gave improved differential reactions between these enteric pathogens and the coliform group. 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. These media are also accepted by the Standard Methods for the Examination of Milk and Dairy Products.

The medium can be used to separate *Mycobacterium fortuitum* and *M. chelonae* from other rapidly growing mycobacteria. MacConkey Agar without Crystal Violet or Salt and MacConkey Agar without Salt are used for isolating and differentiating gram-negative bacilli while suppressing the swarming of most Proteus species. It is recommended in the USP for use in the performance of Microbial Limit Tests.

COMPOSITION

Ingredients	Gms / Ltr
Agar	15.000
Peptone	17.000
Lactose	10.000
Sodium chloride	5.000
Proteose peptone	3.000
Bile salts	1.500
Neutral red	0.030

PRINCIPLE

Peptone and proteose peptoneserves as a source of carbon, nitrogen, long chain amino acids and other essential growth nutrients. The selective actionof this medium is attributed to bile salts, which is inhibitory to most species of gram-positive bacteria. 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 colonies. 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. MacConkey Agar without Crystal Violet is a differential medium that is less selective than MacConkey Agar. Lactose non-fermenting strains, such as *Shigella* and *Salmonella* are colourless and transparent and typically do not alter appearance of the medium. *Yersinia enterocolitica* may appear as small, nonlactose fermenting colonies after incubation at room temperature

INSTRUCTION FOR USE

1. MacConkey Agarisa ready to use solid media in glass bottle. The medium is pre-sterilized, hence sterilization is not required.
2. Prior to use, medium in the bottle can be melted either by using a pre-heated water bath or any other method.
3. Slightly loosenthecap before melting.
4. Pour liquefiedagarinto each plate as desired and allow them to solidify at room temperature. Plates are now ready to inoculateor refrigerate for later use.

QUALITY CONTROL SPECIFICATIONS

Appearance	:	Orange red color, clear to slightly opalescent gel.
Quantity of Medium	:	100 ml of the medium in glass bottles
pH (at 25°C)	:	7.1± 0.2
Sterility Check	:	Passes release criteria

INTERPRETATION

Culturalcharacteristics observed after incubation**.** Recovery rate is considered 100% for bacteria growth on Soya Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Appearance of colony	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Luxuriant	>=50%	Pink with bile ppt	35-37°C	18-24 Hours
#Klebsiella aerogenes	13048	50-100	Luxuriant	>=50%	Pink to red	35-37°C	18-24 Hours
Enterococcus faecalis	29212	50-100	None to poor	<=10%	Pale pink	35-37°C	18-24 Hours
Proteus vulgaris	13315	50-100	Luxuriant	>=50%	Colourless	35-37°C	18-24 Hours
Salmonella typhimurium	14028	50-100	Luxuriant	>=50%	Colourless	35-37°C	18-24 Hours
Shigella flexneri	12022	50-100	Luxuriant	>=50%	Colourless	35-37°C	18-24 Hours
Staphylococcus aureus	25923	≥1000	Inhibited	0%	-	35-37°C	18-24 Hours

#Formerly known as *Enterobacter aerogenes*

PACKAGING

100mlglassbottle.

STORAGE

On receipt, store bottles in the dark at 10 to 25° C. Avoid freezing and overheating. The medium may be used up to the expiration date and incubated for the recommended incubation times. Bottles from unopened packages can be used up to the expiration date. Opened bottles must be used immediately. To prepare plates or tubes from the bottled medium, it must first be liquefied. Do not liquefy any leftovers for a second time

Product Deterioration: Do not use bottles if they show evidence of microbial contamination, discoloration, or any 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, A. 1905. Lactose-fermenting bacteria in feces. J. Hyg. 5:333-379.
3. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2 nd Edition.
5. 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.
6. The United States Pharmacopoeia XXI and the National Formulary, 16th ed., 1985, United States Pharmacopoeial Convention, Inc., Washington, D.C.

Quantity

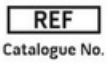
Lot / Batch Number


Temprature Unit


Manufacturer


Best Before

Certification of
Good Manufacturing Practices



Catalogue No.

Authorized Representative


European Conformity


QR
Code


Consults Instructions for use :

For In Vitro Diagnostic Use

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