

## TRM 378 -MacCONKEY AGAR W/ SODIUM TAUROCHOLATE W/O CV & NaCl

### INTENDED USE

For or selection and recovery of the Enterobacteriaceae and related enteric gram-negative bacilli from clinical, food, water samples.

### PRODUCT SUMMARY AND EXPLANATION

MacConkey Agar is based on the bile salt-neutral red-lactose agar of MacConkey. MacConkey Agar is the earliest selective and differential medium for cultivation of enteric microorganisms from a variety of clinical specimens. 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 and pharmaceutical preparations. MacCONKEY AGAR W/ SODIUM TAUROCHOLATE W/O CV & NaCl used for selective and differential medium for cultivation of enteric and gram positive microorganisms.

### COMPOSITION

Ingredients	Gms / Ltr
Peptic digest of animal tissue	20.000
Agar	20.000
Lactose	10.000
Sodium taurocholate	5.000
Neutral red	0.040

### PRINCIPLE

Peptic digest of animal tissue supply the necessary amino acids and polypeptides, while infusions supply vitamins, coenzymes and minerals as well as additional nitrogen compounds. Lactose has been used at a concentration of 1% (wt./vol.) to detect acidification against the alkalization caused by peptone catabolism. MacConkey Agar w/o CV, NaCl and w/ 0.5% Sodium taurocholate is a modification of the original formulation with the exclusion of crystal violet and inclusion of sodium taurocholate instead of bile salts. 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 does not contain sodium chloride and therefore provides a "low electrolyte medium", preventing *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 color 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* 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

1. Prior to use, medium in the bottle can be melted either by using a pre-heated water bath or any other method.
2. Slightly loosen the cap before melting.
3. Pour liquefied agar into each plate as desired and allow them to solidify at room temperature. Plates are now ready to inoculate or refrigerate for later use.

**Note:** It is a ready to use solid media in glass bottle. The medium is pre-sterilized; hence sterilization is not required.

### QUALITY CONTROL SPECIFICATIONS



<b>Appearance</b>	:	Rose red color, clear to slightly opalescent gel.
<b>Quantity of Medium</b>	:	100 ml of the medium in glass bottle
<b>pH (at 25°C)</b>	:	7.4± 0.2
<b>Sterility Check</b>	:	Passes release criteria

### INTERPRETATION

Cultural characteristics observed after incubation.

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

# Formerly known as *Enterobacter aerogenes*

### PACKAGING:

100 ml glass bottle sealed with rubber stopper.

### 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

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

### REFERENCES

1. MacConkey, The Lancet, ii:20 (1900)
2. MacConkey. J. Hyg. 5:333. (1905).
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.

**QTY.**  
Quantity

**LOT/  
B. NO.**  
Lot / Batch Number

  
Temperature Unit

  
Manufacturer

  
Best Before

**GMP**  
Certification of  
Good Manufacturing Practices

**REF**  
Catalogue No.

**EC REP** MedNet GmbH  
Barkstrasse 10,  
48163 Münster, Germany  
Authorized Representative

**CE**  
European Conformity

  
QR  
Code

  
Consults Instructions for use :

**IVD**  
For In Vitro Diagnostic Use

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

**\*For Lab Use Only**  
Revision: 31<sup>st</sup> March. 2022