

TMH 378 – MacCONKEY AGAR W/O CV, NaCl, W/ 0.5% SODIUM TAUROCHOLATE

INTENDED USE

For the selection and recovery of the Enterobacteriaceae and related enteric gram-negative bacilli from clinical, food and 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. 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. Original medium contains protein, bile salts, sodium chloride and two dyes.

The selective action of this medium is attributed to bile salts, which are inhibitory to most species of gram-positive bacteria. 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. 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.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	20.000
Lactose	10.000
Sodium taurocholate	5.000
Neutral red	0.040
Agar	20.000

PRINCIPLE

The medium consists of peptone which supply nitrogenous and carbonaceous compounds. Gram-negative bacteria usually grow well on the medium and are differentiated by their ability to ferment lactose. Neutral red is the pH indicator. Agar act as a solidifying agent in the medium.

INSTRUCTION FOR USE

- Dissolve 55.0 grams of medium in 1000 ml purified/distilled water.
- Heat to boiling with gentle swirling to dissolve the agar completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Avoid overheating. Cool to 45-50°C.
- Mix well and pour into sterile Petri plates. The surface of the medium should be dry when inoculated

QUALITY CONTROL SPECIFICATIONS



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

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation temperature	Incubation Period
<i>Salmonella</i> Paratyphi B	8759	50-100	Luxuriant	>=70%	Colourless	35-37°C	18-24 Hours
<i>Salmonella</i> Typhi	6539	50-100	Luxuriant	>=70%	Colourless	35-37°C	18-24 Hours
<i>Salmonella</i> Enteritidis	13076	50-100	Luxuriant	>=70%	Colourless	35-37°C	18-24 Hours
<i>Staphylococcus aureus subsp. aureus</i>	25923	50-100	Fair-good	20-40%	Pale pink to red	35-37°C	18-24 Hours
<i>Staphylococcus aureus subsp. aureus</i>	6538	50-100	Fair-good	20-40%	Pale pink to red	35-37°C	18-24 Hours
<i>Salmonella</i> Paratyphi A	9150	50-100	Luxuriant	>=70%	Colourless	35-37°C	18-24 Hours
<i>Escherichia coli</i>	25922	50-100	Luxuriant	>=70%	Pink to red with bile precipitate	35-37°C	18-24 Hours
<i>Escherichia coli</i>	8739	50-100	Luxuriant	>=70%	Pink to red with bile precipitate	35-37°C	18-24 Hours

<i>Enterococcus faecalis</i>	29212	50-100	Fair-good	20-40%	Pale pink to red	35-37°C	18-24 Hours
<i>Shigella flexneri</i>	12022	50-100	Fair-good	20-40%	Colourless	35-37°C	18-24 Hours
<i>Klebsiella aerogenes</i>	13048	50-100	Luxuriant	>=70%	Pale pink to red	35-37°C	18-24 Hours
<i>Proteus vulgaris</i>	13315	50-100	Luxuriant	>=70%	Colourless	35-37°C	18-24 Hours

PACKAGING:

In pack size 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

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3. 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.
4. MacConkey, 1900, The Lancet, ii:20.
5. MacConkey, 1905, J. Hyg., 5:333.
6. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
7. The United States Pharmacopoeia XXI and the National Formulary, 16th ed., 1985, United States Pharmacopoeial Convention, Inc., Washington, D.C.
- 8 Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.



GMP Good Manufacturing Practices Certified	IVD For In Vitro Diagnostic Use	QTY. Quantity	LOT/ B. NO. Lot / Batch Number	REF Catalogue Number	 Manufacturer
 Temperature Unit	EC REP MedNet GmbH Birkstrasse 10, 49163 Muenster, Germany Authorized Representative	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

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

***For Lab Use Only**
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