MacConkey Agar w/o CV, with 0.5% Sodium Taurocholate M1785

MacConkey Agar w/o CV,with 0.5% Sodium taurocholate is recommended for isolation and differentiation of lactose fermenting and lactose non fermenting enteric bacteria

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	20.000
Lactose	10.000
Sodium taurocholate	5.000
Sodium chloride	5.000
Neutral red	0.070
Agar	15.000
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 55.07 grams of medium in 1000 ml distilled water. Heat to boiling with gentle swirling to dissolve the agar completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Avoid overheating. Cool to 45-50°C and pour into sterile Petri plates. The surface of the medium should be dry when inoculated.

Principle And Interpretation

MacConkey Agar is the earliest selective and differential medium for cultivation of enteric microorganisms from a variety of clinical specimens (1, 2). Subsequently MacConkey Agar and Broth have been recommended for use in microbiological examination of foodstuffs (3) and for direct plating / inoculation of water samples for coliform counts (4). These media are also accepted by the Standard Methods for the Examination of Milk and Dairy Products (5) and pharmaceutical preparations (6).

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. 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 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.

Quality Control

Appearance
Light yellow to pink homogeneous free flowing powder

Gelling
Firm, comparable with 2.0% Agar gel.

Colour and Clarity of prepared medium
Orange red coloured clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 5.5% w/v aqueous solution at 25°C. pH : 7.5±0.2

pH
7.30-7.70

Cultural Response
M1785: Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony

Cultural Response

Escherichia coli ATCC 25922	50-100	luxuriant	>=50%	pink to red with bile precipitate
Enterobacter aerogenes ATCC 13048	50-100	luxuriant	>=50%	pale pink to red
Enterococcus faecalis ATCC 29212	50-100	fair to good	30-40%	pale pink to red
Proteus vulgaris ATCC 13315	50-100	luxuriant	>=50%	colourless
Salmonella Paratyphi A ATCC 9150	50-100	luxuriant	>=50%	colourless
Shigella flexneri ATCC 12022	50-100	fair to good	30-40%	colourless
Salmonella Paratyphi B ATCC 8759	50-100	luxuriant	>=50%	colourless
Salmonella Enteritidis ATCC 13076	50-100	luxuriant	>=50%	colourless
Salmonella Typhi ATCC 6539	50-100	luxuriant	>=50%	colourless
Staphylococcus aureus ATCC 25923	50-100	fair-good	30-40%	pale pink -red

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference

1.MacConkey, 1900, The Lancet, ii:20.
2.MacConkey, 1905, J. Hyg., 5:333.
3.Speck M. (Ed.), 1985, Compendium of Methods for the Microbiological Examination of Foods, 2nd ed., APHA, Washington, D.C.
4.Greenberg A. E., Clesceri L. S. and Eaton A. D., (Eds.), 1992, Standard Methods for the Examination of Water and Wastewater, 18th ed., APHA, Washington, D.C.
5.Marshall R. (Ed.), 1992, Standard Methods For the Examination of Dairy Products, 16th ed., APHA, Washington, D.C.
6.The United States Pharmacopoeia XXI and the National Formulary, 16th ed., 1985, United States Pharmacopeial Convention, Inc., Washington, D.C.

Revision : 1 / 2011