

HiCombi™ MacConkey- Mannitol Salt Agar

HB007

Combination of MacConkey Agar + Mannitol Salt Agar recommended for cultivation and differentiation of enteric bacteria, restricting the swarming of *Proteus* species along with potentially pathogenic gram positive organisms especially pathogenic *Staphylococci* .

Composition**

Ingredients	Gms / Litre
MacConkey Agar	-
Peptic digest of animal tissue	20.000
Sodium taurocholate	5.000
Gelatin peptone	17.000
Crystal violet	0.001
Beef extract	1.000
Casein enzymic hydrolysate	1.500
Peptone	1.500
Lactose	10.000
Bile salts	0.030
Neutral red	1.500
Agar	15.000
Mannitol Salt Agar	-
Proteose peptone	10.000
Meat extract B	1.000
Phenol red	0.025
Sodium chloride	75.000
D-Mannitol	10.000
Agar	15.000

**Formula adjusted, standardized to suit performance parameters

Directions

Streak the test inoculum (50-100 CFU) aseptically on the plate.

Principle And Interpretation

Biplates has unique combination of two media.

MacConkey Agar is a differential medium for the selection and recovery of the *Enterobacteriaceae* and related enteric gram-negative bacilli. This medium is prepared in accordance with USP and contain crystal violet, NaCl and Bile salts. It is very selective and suppresses growth of a number of Gram-positive bacteria including staphylococci. Coliforms and Enterobacter give pink to red colonies on this medium and *Escherichia coli* gives pink to red colonies with bile precipitate.

Mannitol Salt Agar is used for the selective isolation of pathogenic *Staphylococci* . This medium is recommended for the detection and enumeration of coagulase-positive *Staphylococci* in milk, food and other specimens.

The differential action of the medium is attributed to D-Mannitol. *Staphylococcus aureus* ferments mannitol to produce yellow colonies with yellow cones. Most coagulase-negative species of *Staphylococci* and *Micrococci* do not ferment mannitol and therefore the medium remains red in colour. Presumptive *Staphylococcus* showing yellow coloured medium should be further tested for production of coagulase.

Quality Control

Appearance

Sterile Mannitol Salt Agar and MacConkey Agar in 90 mm disposable biplates.

Colour

Red coloured medium with purplish tinge of MacConkey Agar and Orangish Red coloured medium of Mannitol Salt Agar

Quantity of medium

10 ml of each medium in biplate

pH of Mannitol salt Agar

7.20- 7.60

pH of MacConkey Agar

7.20- 7.60

Sterility test

Passes release criteria

Cultural response

Cultural characteristics observed after incubation at 35-37°C for 18-48 hours.

Organism	Growth on MacConkey Agar	Colour of colony on MacConkey Agar	Growth on Mannitol Salt Agar	Colour of colony on Mannitol Salt Agar
<i>Escherichia coli</i> ATCC 25922	Luxuriant	Pink-red w/ bile precipitate	Inhibited	-
<i>Proteus vulgaris</i> ATCC 13315	Luxuriant	Colourless	-	-
<i>S. serotype paratyphi A</i> ATCC 9150	Luxuriant	Colourless	-	-
<i>S. serotype paratyphi B</i> ATCC 8759	Luxuriant	Colourless	-	-
<i>Shigella flexneri</i> ATCC 12022	Fair-good	Colourless	-	-
<i>Staphylococcus aureus</i> ATCC 6538	Good-luxuriant	Pale pink - red	Luxuriant	Yellow/white surrounded by a yellow zone
<i>Staphylococcus aureus</i> ATCC 25923	Good-luxuriant	Pale pink - red	Luxuriant	Yellow/whitesurrounded by a yellow zone
<i>S. serotype enteritidis</i> ATCC 13076	Luxuriant	Colourless	-	-
<i>Enterobacter aerogenes</i> ATCC 13048	Luxuriant	Pink-red	Inhibited	-
<i>S. serotype typhi</i> ATCC 6539	Luxuriant	Colourless	-	-
<i>Enterococcus faecalis</i> ATCC 29212	Good-luxuriant	Pale pink to red	-	-
<i>Staphylococcus epidermidis</i> ATCC 12228	Good-luxuriant	Pale pink to red	Fair-Good	Red
<i>Staphylococcus epidermidis</i> ATCC 14990	-	-	Fair - Good	Red
<i>Proteus mirabilis</i> ATCC 12453	-	-	None-Poor	Yellow

Storage and Shelf Life

Store below 20-30°C. Use before expiry date on the label.

Reference

Refer Technical Data of M081 MacConkey agar w/0.15% Bile Salts, CV and NaCl & M118 Mannitol Salt Agar.

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