Mannitol Agar w/ Prilion

M1624

Mannitol Agar w/ Prilion is recommended as a selective agar medium for isolation and differentiation of *Salmonella* from *Proteus* species.

Composition**

Ingredients	Gms / Litre
Meat peptone	10.000
Meat extract	7.000
Sodium chloride	3.000
Disodium hydrogen phosphate	2.000
D-Mannitol	15.000
Water blue	0.625
Metachrome yellow	1.875
Pril	2.000
Agar	13.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 54.5 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Mannitol Agar w/ Prilion is a selective medium developed by Pietzsch (1) for the isolation and differentiation of *Salmonella* from *Proteus* species. This medium is the modification of Gassner Agar (2), with lactose being replaced with mannitol and the addition of the selective component Pril.

The detergent Pril inhibits flagellate movement and thus prevents swarming of *Proteus* , without affecting the growth of Salmonella (3, 4). This medium helps to distinguish between lactose-negative, mannitol-positive *Salmonella* colonies from lactose-negative, mannitol-negative *Proteus* colonies by their different colouration. But as both *Salmonella* and coliform bacteria ferment mannitol, they cannot be differentiated from one another on this medium. The prepared culture medium is green; in the acidic pH range it becomes blue-green to blue. At alkaline pH; however the yellow colour of the metachrome yellow becomes increasingly apparent.

Quality Control

Appearance
Light yellow to blue homogeneous free flowing powder

Gelling
Firm comparable with 1.3% agar gel

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

Reaction
Reaction of 5.45% w/v aqueous solution at 25°C pH : 7.2±0.2

pH
7.00-7.40

Cultural Response
M1624: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colonies and medium

Escherichia coli ATCC 25922	50-100	good	40-50%	blue
Klebsiella pneumoniae ATCC 13883	50-100	good	40-50%	blue
Salmonella Typhimurium ATCC 14028	50-100	good	40-50%	blue
Salmonella Enteritidis ATCC 13076	50-100	good	40-50%	blue
Proteus mirabilis ATCC 14273	50-100	fair	20-30%	yellow
Proteus vulgaris ATCC 13315	50-100	fair to good	30-40%	yellow

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. Pietzsch O,1967, Fleischwirtsch., 1:31-32
2. Gassner G., 1918, Centralbl. F., Backt. I. Orig., 80: 219
3. Doll W., 1956, Zbl. Bakt., I. Abt. Orig., 166; 43-47
4. Doll W, 1958, Zbl. Bakt., I. Abt. Orig., 171;151-152.

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