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MANNITOL SALT AGAR

Mannitol Salt Agar is preferred for the isolation and identification of Staphylococcus species.

REF: BS.1/MS01.100.0100	100 Gram	REF: BS.1/MS01.250.01250	250 Gram
REF: BS.1/MS01.500.0500	500 Gram		

CLINICAL SIGNIFICANCE

Staphylococci are widespread in nature, although they are mainly found on the skin, skin glands and mucous membranes of mammals and birds. The coagulase-positive species i.e. Staphylococcus aureus is well documented as a human opportunistic pathogen. The ability to clot plasma continues to be the most widely used and accepted criterion for the identification of pathogenic staphylococci associated with acute infections. Staphylococci have the unique ability of growing on a high salt containing media. Isolation of coagulase-positive staphylococci on Phenol Red Mannitol Agar supplemented with 7.5%NaCl was studied by Chapman. The resulting Mannitol Salt Agar Base is recommended for the isolation of coagulase-positive staphylococci from cosmetics, milk, food and other specimens.

METHOD PRINCIPLE

The medium contains peptone which makes it very nutritious as they provide carbon, nitrogen compounds, long chain amino acids, vitamins and other essential growth factors and trace nutrients. Many other bacteria except Staphylococci are inhibited by 7.5%sodium chloride. Mannitol is the fermentable carbohydrate fermentation of which leads to acid production, detected by phenol red indicator. S.aureus ferment mannitol and produce yellow coloured colonies surrounded by yellow zones. Coagulase-negative strains of S.aureus are usually mannitol non-fermenters and therefore produce pink to red colonies surrounded by red-purple zones. Presumptive coagulase-positive yellow colonies of S.aureus should be confirmed by performing the coagulase test [tube or slide]. Lipase activity of S.aureus can be detected by supplementing the medium with egg yolk emulsion.

MEDIA COMPOSITION

Item	Concentration
- Peptone	5.0 g/L
- Tryptone	5.0 g/L
- Beef Extract	1.0 g/L
- Sodium Chloride	75.0 g/L
- D-Mannitol	10.0 g/L
- Phenol Red	0.025 g/L
- Agar	15.0 g/L

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,..).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.
  S56: dispose of this material and its container at hazardous or special waste collection point.
  S57: use appropriate container to avoid environmental contamination.
  S61: avoid release in environment.

For further information, refer to the Mannitol salt agar material safety data sheet.

MEDIA PREPARATION, STORAGE AND STABILITY

BioScien Mannitol Salt Agar media are stable until expiration date stated on label when properly stored at 10-30°C. Mannitol Salt Agar media is prepared by suspend 111.02 grams of the medium in one liter of distilled water. Mix well and dissolve by heating. Boil for one minute until complete dissolution. Sterilize in autoclave at 121°C for 15 minutes. Cool to 45-50°C, mix well and dispense into plates.

N.B: This product contains 7.5% Sodium chloride as one of its ingredients. On repeated exposure to air and absorption moisture sodium chloride has tendency to form lumps, therefore we strongly recommend storage in tightly closed containers in dry place away from bright light

Deterioration

BioScien Mannitol Salt Agar medium is Light yellow to pink colored granular medium. If there are any physical changes, discard the medium.
Media should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), and contaminations.

SPECIMEN COLLECTION AND PRESERVATION

Pharmaceutical samples

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups
- Sterile petri-dishes
- Incubator
- Autoclave

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact ***BioScien*** technical support.

PERFORMANCE CHARACTERISTICS

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Mannitol Salt Agar	Expected results
Staphylococcus aureus subsp. aureus ATCC 6538	yellow/white colonies surrounded by yellow zone
Staphylococcus aureus subsp. aureus ATCC 25923	yellow/white colonies surrounded by yellow zone
Staphylococcus epidermidis ATCC 12228	Red colonies
Staphylococcus epidermidis ATCC 14990	Red colonies
Escherichia coli ATCC 25922	inhibited
Escherichia coli ATCC 8739	inhibited

REFERENCES

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6. 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.

SYMBOLS IN PRODUCT LABELLING	
IVD For in-vitro diagnostic use	Number of <n> test in the pack
LOT Batch Code/Lot number	Caution
REF Catalogue Number	Do not use if package is damaged
Temperature Limitation	Consult Instruction for use
Expiration Date	
Manufactured by	

EC REP

Medical Device Safety Service
MDSS GmbH
Schiffgr aben 41
30175 Hannover, Germany

CE