

## Mannitol Salt Broth

LQ181V

### Intended Use

Sterile, ready prepared medium for selective enrichment of presumptive pathogenic Staphylococci.

### Composition\*\*

Ingredients	g / L
Proteose peptone	10.000
HM peptone B #	1.000
Sodium chloride	75.000
D-Mannitol	10.000
Phenol red	0.025
Final pH ( at 25°C)	7.4±0.2

\*\*Formula adjusted, standardized to suit performance parameters

# Equivalent to Beef extract

### Directions

1. This product is available in multiple pack sizes of 25 and 50 bottles containing 5ml of sterile medium in each bottle.
2. The bottles when supplied are intact. Ensure that all bottles are in upright position and there is no leakage or any manufacturing defect or contamination.
3. User may remove the desired number of bottles from the box as per their requirement.
4. It should be handled by trained person wearing appropriate personal protective equipment (PPE) and sterile gloves.
5. Place the bottles on sterile surfaces such as laminar air flow or sterile working bench.
6. Label them accordingly.
7. Disinfect the outer surface of cap or closures with suitable disinfectant example 70% IPA.
8. Observe aseptic techniques and standard microbiological methods while processing and inoculation of samples or cultures into this media.
9. On completion of inoculation tighten the cap and close it carefully.
10. Incubate at specified temperature and time or as desired.
11. Follow good lab practices for procedures and disposal.

### Principle And Interpretation

Mannitol Salt Broth is prepared as suggested by Chapman (1) and is used for the selective isolation of pathogenic Staphylococci. This medium is recommended for the detection and enumeration of coagulase-positive Staphylococci in milk (2) food (3) and other specimens. Mannitol Salt Broth is used for the isolation of presumptive pathogenic staphylococci. Pathogenic staphylococci ferment mannitol and produce a yellow coloured medium.

The medium contains HM peptone B and proteose peptone which makes it very nutritious as they provide essential growth factors and trace nutrients. Many other bacteria except Staphylococci are inhibited by 7.5% sodium chloride. Mannitol is the fermentable carbohydrate source. The differential action of the medium is attributed to D-Mannitol. *Staphylococcus aureus* ferments mannitol to produce yellow coloured medium. Most coagulase-negative species of Staphylococci and Micrococci do not ferment mannitol and therefore the medium remains red in colour. The colour of the medium is due to the reactivity of phenol red to the pH of the medium; phenol red is red at pH 8.4 and yellow at 6.8. Presumptive *Staphylococcus* showing yellow coloured medium should be further tested for production of coagulase.

A possible *S. aureus* must be confirmed by the coagulase test. Also the organism should be subcultured to a less inhibitory medium not containing excess salt to avoid the possible interference of salt with coagulase testing or other diagnostic tests (e.g. Nutrient Broth) (LQ071) (4). Few strains of *S. aureus* may exhibit delayed mannitol fermentation. Negative results should therefore be re-incubated for an additional 24 hours before being discarded (4).

### Type of specimen

Clinical samples: nasal and skin lesions & swabs, abscess, wound exudates, pus or discharge; Food and Dairy samples.

### Specimen Collection and Handling

For food and dairy samples follow appropriate techniques for handling specimens as per established guidelines (4,5)

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (6,7).

After use, contaminated materials must be sterilized by autoclaving before discarding.

## Limitations

1. A possible *S.aureus* must be confirmed by the coagulase test.
2. The organism should be subcultured to a less inhibitory medium not containing excess salt to avoid the possible interference of salt with coagulase testing or other diagnostic tests (e.g. Nutrient Broth) (LQ071) (4).
3. Few strains of *S.aureus* may exhibit delayed mannitol fermentation. Negative results should therefore be re-incubated for an additional 24 hours before being discarded (4).

## Performance and Evaluation

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

## Quality Control

### Appearance

Sterile Mannitol Salt Broth in glass bottle

### Colour

Red coloured clear solution

### Quantity of Medium

5 ml of medium in glass bottle

### pH

7.20-7.60

### Sterility Check

Passes release criteria

### Cultural Response

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

Organism	Inoculum (CFU)	Growth	Colour of medium
<i>Escherichia coli</i> ATCC 25922 (00013*)	$\geq 10^4$	inhibited	
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	50-100	good-luxuriant	yellow
<i>Staphylococcus epidermidis</i> ATCC 12228 (00036*)	50-100	fair-good	red
<i>Escherichia coli</i> ATCC 8739 (00012*)	$\geq 10^4$	inhibited	
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 6538 (00032*)	50-100	good-luxuriant	yellow

Key : (\*) Corresponding WDCM numbers.

## Storage and Shelf Life

Store between 15-30°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

## Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (6,7).

## Reference

1. Chapman G.H., 1945, J. Bact., 50:201.
2. Marshall R. (Ed.), 1992, Standard Methods for the Examination of Dairy Products, 16th ed., APHA, Washington, D.C.
3. Bacteriological Analytical Manual, 1995, Food and Drug Administration, 8th ed., AOAC, International, U.S.A.
4. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
5. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.

6. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.  
7. 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.

Revision : 00/2024

## Packaging

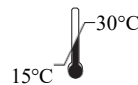
LQ181V-25X5ML - Mannitol Salt Broth  
LQ181V-50X5ML - Mannitol Salt Broth



HiMedia Laboratories Pvt. Limited,  
Plot No.C-40, Road No.21Y,  
MIDC, Wagle Industrial Area,  
Thane (W) -400604, MS, India



**IVD** *In vitro* diagnostic  
medical device



**Storage temperature**



CEpartner4U, Esdoornlaan 13,  
3951DB Maarn, NL  
www.cepartner4u.eu



**CE Marking**



**Do not use if  
package is damaged**



**Single sterile  
barrier system**



**BIO** Contains  
biological  
material of animal  
origin



**Do not re-use**

### Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.