

## Mannitol Salt Agar

Catalog : HB4128-5-500

Mannitol Salt Agar is used for isolation and identification of *staphylococcus aureus* from food stuffs and other materials.

### Approximate Formula:

| Ingredients                    | gm/liter |
|--------------------------------|----------|
| Pancreatic digest of casein    | 5.0      |
| Peptic Digest of Animal Tissue | 5.0      |
| Meat Extract                   | 1.0      |
| D- Mannitol                    | 10.0     |
| Sodium Chloride                | 75.0     |
| Phenol Red                     | 0.025    |
| Agar                           | 15.0     |
| Final pH7.4±0.2 at 25°C        |          |

\*Adjusted and/or supplemented as required to meet performance criteria.

### Directions:

Suspend 111.0g of the medium in one litre of distilled water or deionized water. Heat to boiling for 1 min with frequent agitation to completely dissolve the powder. Sterilize in an autoclave at 121°C(15 lbs.) for 15 min.

### Principle and Interpretation:

Mannitol Salt Agar is a nutritive medium due to its content of peptones and meat extract, which supply essential growth factors, such as nitrogen, carbon, sulfur and trace nutrients. The 7.5% concentration of sodium chloride results in the partial or complete inhibition of bacterial organisms other than staphylococci. Mannitol fermentation, as indicated by a change in the phenol red indicator, aids in the differentiation of staphylococcal species. Agar is a solidifying agent.

### Appearance:

Dehydrated medium is a free-flowing yellowish-light red powder. The prepared medium is a kind of red transparent gel.

### Precautions:

This medium is for laboratory use only. Dried medium which is past shelf life, caking or color variation cannot be used.

### Storage conditions and Shelf life:

Mannitol Salt Agar must be stored tightly capped in the original container at 5-30°C. The dehydrated medium has a shelf life of 5 years from date of manufacturing. Prepared medium may be stored, out of direct light at 2-8°C.

### Quality control:

Prepare the culture medium as per label directions. Inoculate and incubate at 36±1°C for 24-48 hours.

| Microorganism                     | Strains Number | Inoculum (CFU ) | Growth    | Recovery | Remarks                          |
|-----------------------------------|----------------|-----------------|-----------|----------|----------------------------------|
| <i>Staphylococcus Aureus</i>      | ATCC 6538      | 10-100          | luxuriant | ≥70%     | Yellow colonies with yellow halo |
| <i>Staphylococcus epidermidis</i> | CMCC 26069     | 10-100          | luxuriant | /        | Red colonies                     |
| <i>Escherichia coli</i>           | ATCC 25922     | /               | inhibited | /        | /                                |
| <i>Staphylococcus Aureus</i>      | ATCC 25923     | 10-100          | luxuriant | ≥70%     | Yellow colonies with yellow halo |
| <i>Salmonella typhimurium</i>     | ATCC 14028     | /               | inhibited | /        | /                                |

### References:

- 1.United States Pharmacopeial Convention, Inc. 2008. The United States pharmacopeia 31/The national formulary 26, Supp. 1, 8-1-08, online. United States Pharmacopeial Convention, Inc., Rockville, Md.
- 2.European Directorate for the Quality of Medicines and Healthcare. 2008.The European pharmacopoeia, 6th ed., Supp. 1, 4-1-08, online. European Directorate for the Quality of Medicines and Healthcare, Council of Europe, 226 Avenue de Colmar BP907-, F-67029 Strasbourg Cedex 1, France.