

Specification

Selective medium for the isolation of pathogenic staphylococci, according to the Pharmacopoeial Harmonized Methodology and Clinical samples.

Presentation

10 Prepared bottles
Bottles 125 ml
with: 100 ± 3 ml

Packaging Details

1 box with 10 bottles 125 ml. Plastic screw inner cap.

Shelf Life

12 months

Storage

2-25 °C

Composition

Composition (g/l):

Beef extract.....	1,000
Pancreatic digest of casein.....	5,000
Peptic digest of meat.....	5,000
Sodium chloride.....	75,000
D-Mannitol.....	10,000
Phenol red.....	0,025
Agar.....	15,000

Description /Technique

Description:

Mannitol Salt Agar is a classical medium for the detection and enumeration of staphylococci. It was described by Chapman and has been adopted by many official organisations. Several modifications of it have been developed, all formulations resulting in media with similar efficiency.

This medium takes advantage of the high saline tolerance of staphylococci, and uses sodium chloride as a selective agent. Only staphylococci and halophilic enterobacteria are able to grow freely at the concentration of salt employed in this medium, while other bacteria are inhibited. It also exploits the correlation between the pathogenicity of staphylococci and their ability ferment mannitol. Mannitol fermentation results in an accumulation of acid products, indicated by the phenol red indicator turning yellow. A yellow halo surrounds the presumptive pathogenic colonies, while the rest of the medium remains red/orange in colour.

Directions for Use:

To use, the contents of the bottle should be poured into plates. The melting of the culture medium should be carried out according to the manufacturer's instructions, either in a water bath (100°C) or microwave oven. Never apply direct heat to melt a medium. The melting temperatures and times depend on the shape of the container, the volume of medium and the heat source. Before melting any medium loosen the screwcap of the container to avoid breaking the container. The medium should be melted only once and used. Media with agar should not be melted repeatedly as their characteristics change with each remelting. Overheating should be avoided as much as prolonged heating, especially with regard to media with an acidic or alkaline pH.

Once melted pour the plates using aseptic techniques. To inoculate, follow standard laboratory methods or the applicable norms. Spiral plate method, streak plating, econometric methods, dilution banks, spread plating etc...

Inoculate the plates and incubate at 37 °C for 36 hours or at 30-35 °C for 3 days.

The typical appearance of the colonies after the correct incubation is as follows:

- Presumptive pathogenic staphylococci (coagulase +) are mannitol positive and produce large colonies with a yellow halo.
- Non-pathogenic staphylococci (coagulase -) are usually mannitol negative and produce small colonies without a halo or change in colour.

Coagulase presence must be tested by the classical technique in order to establish its true pathogenic potential.

Note: According to the methodology chosen by the laboratory (Pharmacopeia or other international standards), may be slight variations in incubation times and temperatures, as well as inhibition of *E. coli*, which can be variable depending on the inoculated bacterial population . This medium can normally reduce the bacterial load by up to 3 decimal logarithms.

Note: The solid mediums can be melted in different ways: autoclave, bath and, if the customer considers appropriate, also the microwave. Whenever the microwave option is chosen, it is necessary to take certain safety measures to avoid breaking of the containers, such as loosening the screw cap and putting the bottle or tube in a water bath in the microwave. The fusion temperature and time will depend on the shape of the container, the volume of medium and the heat source. Avoid overheating as both the heating periods.

Precautions

For *in vitro* diagnostic use. Do not reuse. For professional use only.

Do not use the product if it shows evidence of microbial contamination, discoloration, drying, cracking or other signs of deterioration.

Quality control**Physical/Chemical control**

Color : Reddish

pH: 7.4 ± 0.2 at 25°C

Microbiological control

Melt the medium - Prepare plates - Methodology acc. Eur. Pharm.

Inoculate with 10-100 CFU according to harmonized Pharmacopoeia or with 100-1000 CFU for selectivity.

Analytical methodology according to ISO 11133:2014/A1:2018; A2:2020.

Aerobiosis. Incubation at 30-35°C. Reading at 18-72h

Microbiological control according to ISO 11133:2014/A1:2018; A2:2020.

Microorganism*Escherichia coli* ATCC® 8739, WDCM 00012*Stph. aureus* ATCC® 25923, WDCM 00034*Staphylococcus aureus* ATCC® 6538, WDCM 00032*Stph. epidermidis* ATCC® 12228, WDCM 00036**Sterility control**

Incubation 48 h at 30-35 °C and 48 h at 20-25 °C: NO GROWTH.

Check at 7 days after incubation in same conditions.

Growth

Inhibited

Good (≥ 50%). White colonies. Yellow medium.

Good (≥ 50%). White colonies. Yellow medium.

Poor to good- White colonies -Red medium

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