TM 206 - MANNITOL SALT AGAR BASE

INTENDED USE

For selective isolation of pathogenic Staphylococci from clinical and non-clinical samples.

PRODUCT SUMMARY AND EXPLANATION

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.The additional property of lipase activity of *Staphylococcus aureus* can be detected by the addition of the Egg Yolk Emulsion. The lipase activity can be visualized as yellow opaque zones around the colonies. 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). 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.

COMPOSITION

Ingredients	Gms / Ltr
Proteose peptone	10.000
Beef extract	1.000
Sodium chloride	75.000
D-Mannitol	10.000
Phenol red	0.025
Agar	15.000

PRINCIPLE

Beef extract and proteose peptone supply essential growth factors and trace nutrients to the growing bacteria. Sodium chloride serves as an inhibitory agent against bacteria other than staphylococci. 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.

INSTRUCTION FOR USE

- Dissolve 111.02 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C. If desired, add 5% v/v Egg Yolk Emulsion.
- Mix well and pour into sterile Petri plates.

Note: 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.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to pink homogeneous free flowing powder.

Appearance of prepared medium : Red coloured clear to slightly opalescent gel forms in Petri plates

pH (at 25°C) : 7.4±0.2.

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
Staphylococcus subsp. *aureus*	6538	50-100	Luxuriant	>=70 %	Yellow/white colonies surrounded by yellow zone	35-37°C	18-72Hours
Escherichia coli	8739	>=10^3	Inhibited	0%	-	35-37°C	>=72 Hours
Staphylococcus subsp. *aureus*	25923	50-100	Luxuriant	>=70 %	Yellow/white colonies surrounded by yellow zone	35-37°C	18-72Hours
Staphylococcus epidermidis	14990	50-100	Fair-good	20 -40 %	Red	35-37°C	18-72Hours
Proteus mirabilis	12453	50-100	None-poor	0-10%	Yellow	35-37°C	18-72Hours
Escherichia coli	25922	>=10^3	Inhibited	0%	-	35-37°C	>=72 Hours
Enterobacter aerogenes	13048	>=10^3	Inhibited	0%	-	35-37°C	>=72 Hours

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for

the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

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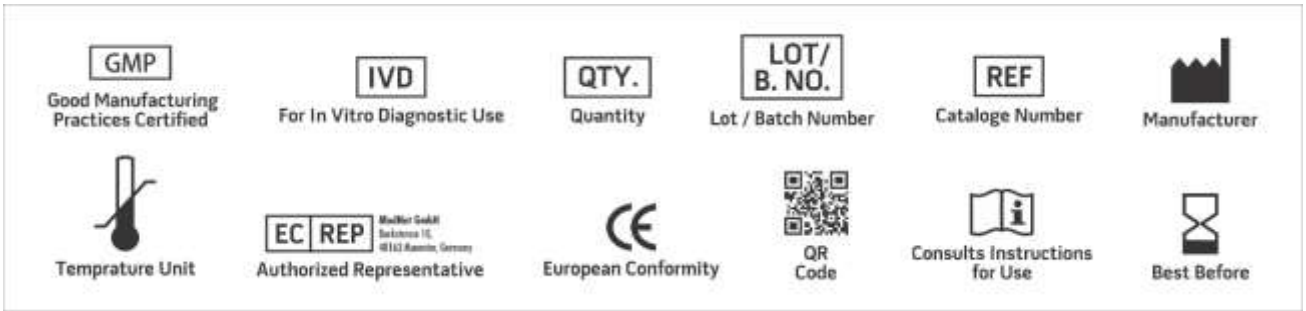

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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