GELATIN MANNITOL SALT AGAR (STAPHYLOCOCCUS AGAR NO. 110) TM 300

For selective isolation and differentiation of Staphyloccoci

Composition

Ingredients	Gms/Ltr.
Sodium chloride	75.00
Gelatin	30.00
Agar	15.00
Mannitol	10.00
Casein enzymatic hydrolysate	10.00
Dipotassium hydrogen phosphate	5.00
Yeast extract	2.5
Lactose	2.00

***** Dehydrated powder, hygroscopic in nature, store, in a dry place in tightly- sealed containers below 25°C and protect from direct Sunlight.

Instructions for Use

Dissolve 149.50gms in 1000ml distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. Sterilize by autoclaving at 15 psi (121°C) for 15 minutes. Cool to 45-50ºC and pour into sterile petri plates.

Appearance: Yellow to straw colour, clear to slightly opalescent gel
pH (at 25°C): 7.1 ± 0.2

Principle

GELATIN MANNITOL SALT AGAR is used for selective isolation and differentiation of Staphyloccoci. Medium contains Casein enzymatic hydrolysate and Yeast extract provides a rich nutritional value of nitrogen, vitamins, minerals and amino acids. High amount of Gelatin is used in a medium as a source of protein, where most bacterial strains can hydrolyze it. Sodium chloride helps maintaining the osmotic balance. Agar is a solidifying agent. This medium was tested with a variety of anaerobic bacteria, and the results were compared with data obtained with the conventional technique for detecting gelatinase activity. Streak or smear the quantified amount of specimen on the plate for an incubation period of 43 hours at 35ºC or for 48 hours at 30ºC. Colonies appears in pigmented forms (deep orange colour), while other non- pigmented colonies are of white in colour. The acid production from Mannitol is best demonstrated by adding a drop of 0.04% Bromo thymol blue indicator to the individual colonies on plate. Where, yellow colour indicated acid production.

For. Gelatin hydrolysis appearance - it is demonstrated by adding a drop of saturated aqueous solution of ammonium sulphate (20%) aqueous solution of sulphosalicyclic acid to an individual colony. Whereas, the presence of a clear zone round gelatinase- colonies after 10 minutes on contact with the reagent.

Interpretation

Cultural characteristics observed after inoculating (10^3CFU / ml), on incubation by straight stabbing and place tightened caps at 35ºC for 43 hours and for 48 hours at 30ºC.

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth
Staphylococcus aureus	25923	10^3	Good, cream colour colonies, mannitol

			positive, gelatinase activity present
Staphylococcus epidermidis	12228	10^3	Good, cream colour colonies, mannitol positive, gelatinase activity present
Escherichia coli	25922	10^3	Inhibited
Pseudomonas aeruginosa	27853	10^3	Inhibited

References

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3. STONE, R.V.: A cultural method for classifying staphylococci as of the "food poisoning" type. Proc. Soc. Exptl. Biol. Med., 33; 185-187 (1935).