

Staphylococcus Agar N° 110

Cat. 1032

Selective medium for the isolation of pathogenic staphylococci.

Practical information

Applications	Categories
Selective isolation	Coagulase-positive staphylococcus

Industry: Clinical



Principles and uses

Staphylococcus Agar N° 110 is a selective medium used to isolate pathogenic staphylococci from clinical and non-clinical samples based on mannitol fermentation, pigment formation and gelatinase activity.

Staphylococci are responsible for many cases of pneumonia, meningitis, furunculosis, urethritis, vaginitis, etc. This medium is also used for isolating staphylococci which contaminate a wide variety of foods and produce food poisoning.

Casein peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is a source of vitamins, particularly the B-group. Lactose and D-mannitol are the fermentable carbohydrates as energy sources; Dipotassium phosphate is the buffer; Sodium chloride supplies essential electrolytes for transport and osmotic balance and, in high concentration, inhibits most bacteria except staphylococci. Gelatin is included to test liquefaction. Bacteriological agar is the solidifying agent.

Pathogenic staphylococci (coagulase-positive staphylococci) resist the high NaCl concentration and form golden yellow colonial pigments.

Mannitol fermentation, producing acid, is detected by adding a few drops of Bromothymol blue to a plate and looking for a yellow halo around the colonies.

Staphylococci liquefy gelatin, producing clearing zones around the colonies. One plate can be filled with 5 ml of a saturated solution of ammonium sulfate, or with a drop of 20% sulfosalicylic acid and incubated for 12 minutes to observe the hydrolysis of the gelatin: a clearing around the colony constitutes a positive hydrolysis (Stone's Reaction).

Formula in g/L

Bacteriological agar	15	Casein peptone	10
Dipotassium phosphate	5	D-mannitol	10
Gelatin	30	Lactose	2
Sodium chloride	75	Yeast extract	2,5

Preparation

Suspend 149,5 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 °C for 15 minutes. Cool to 45-50 °C, mix well and dispense into plates.

Instructions for use

For clinical diagnosis, the type of sample is bacteria isolated from any clinical sample.

- Inoculate on the surface making parallel striae with the handle or swab.
- Incubate in aerobic conditions at 35±2 °C for 18-48 hours.
- Reading and interpretation of the results.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
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w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2
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Microbiological test

Incubation conditions: (35±2 °C / 18-48 h).

Microrganisms	Specification	Characteristic reaction
Staphylococcus epidermidis ATCC 12228	Good growth	No pigment production
Escherichia coli ATCC 25922	Total inhibition	
Staphylococcus aureus ATCC 25923	Good growth	Pigment production
Staphylococcus aureus ATCC 6538	Good growth	Pigment production
Bacillus subtilis ATCC 6633	Good growth	No pigment production

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

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