HiCrome Staph SelectiveAgar

M1931

HiCrome Staph Selective Agar is a selective medium recommended for the isolation and enumeration of *Staphylococcus aureus* .

Composition**

Ingredients	Gms / Litre
Peptone special	25.000
Sodium chloride	50.000
Chromogenic mixture	3.200
Selective mixture	2.800
D-Mannitol	10.000
Phenol red	0.025
Agar	12.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 103.03 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Staphylococci are widespread in nature, though they are mainly found living on the skin, skin glands and mucous membranes of mammals and birds. Humans and animals are the primary source of this organism. Because of its widespread nature it is easily transferred to food and a cause of food poisoning if not handled properly.(1)

The coagulase positive species *S.aureus* is well documented as a human opportunistic pathogen. *Staphylococcus* species are a major cause of food poisoning and produces a wide variety of enterotoxins, thus causing various types of disease symptoms. 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 (2).

This medium is a selective chromogenic medium recommended for the isolation and enumeration of coagulase positive staphylococci in foods within 24 hours. This medium has an advantage over the traditional media which requires 48 hours Peptone special in the medium supplies the essential nitrogeneous compounds required for the growth. Phenol red is pH indicator. Mannitol in the medium is fermented by *Staphylococcus aureus* and the chromogenic mixture incorporated in the medium is specifically cleaved by *Staphylococcus aureus* to give greenish coloured colonies which are easily distinguishable. *Staphylococcus epidermidis* does not ferment mannitol hence blue coloured colonies are observed. Sodium chloride in the the medium helps to maintain the osmotic equilibrium of the medium. High concentration of sodium chloride also helps in inhibiting the accompanying microflora.

Quality Control

Appearance
Light yellow to pink homogeneous free flowing powder

Gelling
Firm, comparable with 1.2% Agar gel

Colour and Clarity of prepared medium
Red coloured clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 10.03 % w/v aqueous solution 25°C. pH : 7.4±0.2

Cultural Response
M1931: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Cultural Response				
Staphylococcus aureus ATCC 25923	50 -100	luxuriant	>=50%	green colonies
Staphylococcus aureus ATCC 6538	50 -100	luxuriant	>=50%	green colonies
Bacillus cereus ATCC 10876	>=10^3	inhibited	0%	
Staphylococcus epidermidis ATCC 12228	50 -100	good	40-50%	blue colonies
Enterococcus faecalis ATCC 29212	>=10^3	inhibited	0 %	
Escherichia coli ATCC 25922	>=10	inhibited	0 %	

Storage and Shelf Life
Store dehydrated powder and prepared medium at 2-8°C. Use before expiry period on the label.

Reference
1.Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
2.Victor , Lachica F, Weiss KF , Deibel RH (1969) Appl Microbiol 18 126-27

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