

For identification of *Staphylococcus aureus*

HiCrome™ Staph Selective Agar

Recommended as a selective medium for the isolation and enumeration of *Staphylococcus aureus*.

M1931

Composition **

Ingredients	Grams/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. DO NOT AUTOCLAVE. 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. Peptone special in the medium supplies the essential nitrogenous, carbonaceous 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 medium helps to maintain the osmotic equilibrium of the medium. High concentration of sodium chloride also helps in inhibiting the accompanying microflora.

Type of specimen

Clinical and food samples

Specimen Collection and Handling

For Clinical samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (3, 4).

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (5)

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

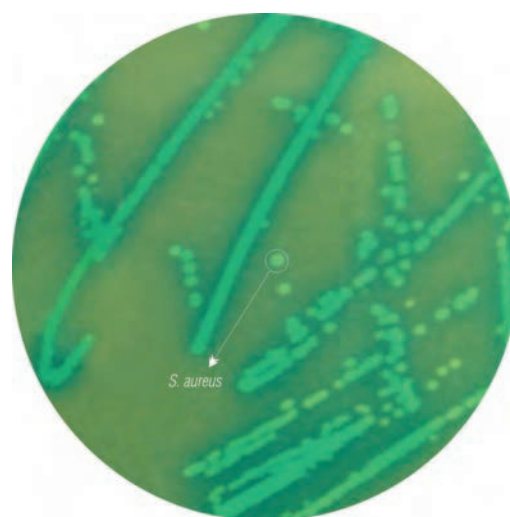
In Vitro diagnostic use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets

Limitations

1. Due to variable nutritional requirements, some strains may show poor growth on this medium.
2. Slight colour variation may be observed depending upon the utilization of the substrate by the organism.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the recommended temperature.



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Quality Control

- Appearance of Powder** : 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 10.30 % w/v aqueous solution at 25°C. pH : 7.4±0.2.
- Cultural Response** : Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organisms (ATCC)	Inoculum CFU)	Growth	Recovery	Colour of colony
<i>Staphylococcus aureus</i> (25923) (00034*)	50 -100	luxuriant	≥50 %	green colonies
<i>Staphylococcus aureus</i> (6538 (00032*)) (00032*)	50 -100	luxuriant	≥50 %	green colonies
<i>Bacillus cereus</i> (10876)	≥10 ³	inhibited	0%	-
<i>Staphylococcus epidermidis</i> (12228) (00036*)	50 -100	good-poor	40-50 %	blue colonies
<i>Enterococcus faecalis</i> (29212) (00087*)	≥10 ³	inhibited	0 %	-
<i>Escherichia coli</i> (25922) (00013*)	≥10 ³	inhibited	0 %	-

Key : * : Corresponds to WDCM number

Storage and Shelf-life

Store between 2-8°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. Use before expiry date on the label.

Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3, 4).

References

- Murray P. R., Baron J. H., Tenover F. C., Tenover F. C., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
- Victor , Lachica F, Weiss KF , Deibel RH (1969) Appl Microbiol 18 126-27.
- Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
- Jorgensen, J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1
- Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C

Ready Prepared Media			
Code	Product Name	Usage	Packing
Category : 90 mm Ready Prepared Petri Plates			
MP1931	90mm HiCrome™ Staph Selective Agar Plate	for the isolation and enumeration of <i>Staphylococcus aureus</i> .	50 plts