B.T.B. Lactose HiCynth™ Agar

MCD861

Intended Use:

Recommended for detection and isolation of pathogenic Staphylococci.

Composition**

Ingredients	g/ L
HiCynth™ Peptone No.5*	8.000
Lactose	10.000
Bromo thymol blue	0.170
Agar	15.000
Final pH (at 25°C)	8.6±0.2

**Formula adjusted, standardized to suit performance parameters
*Chemically defined peptone

Directions

Suspend 33.17 gram in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Staphylococcus are frequently a part of the normal human microflora, it can cause significant opportunistic infections under appropriate conditions (1). Traditionally Staphylococci are divided into two groups on the basis of their ability to clot blood plasma (the coagulase reaction). The coagulase-positive Staphylococci constitute the most pathogenic species, *Staphylococcus aureus*. BTB Lactose Agar (2) designed by Chapman et al (3), is used in the detection and isolation of pathogenic Staphylococci. On this media Staphylococci are differentiated by their ability to grow at a high pH and in the presence of bromothymol blue. B.T.B. Lactose HiCynth™ Agar is prepared by replacing animal and vegetable peptones with chemically defined peptones to avoid BSE/TSE risks associated with animal peptones.

HiCynth™ Peptone No.5 serves as a source of carbon, nitrogen, long chain amino acids, vitamins and other essential nutrients. Lactose is the fermentable carbohydrate with bromothymol blue as an indicator. Plates should be inoculated preferably by spread plate technique and incubated for about 36 hours at 35°C. Typical colonies appear deep yellow (90% approx.) or blue grey (10% approx.). Coliforms may grow but are differentiated by their appearance.

Type of specimen

Food samples

Specimen Collection and Handling

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (4).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

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 specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Further biochemical and serological tests must be carried out for complete identification.

Performance and Evaluation

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

Quality Control

Appearance

Cream to greenish yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Greenish blue coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 3.32% w/v aqueous solution at 25°C. pH : 8.6±0.2

pH

8.40-8.80

Cultural Response

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

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Escherichia coli ATCC 25922 (00013*)	50-100	good-luxuriant	>=70%	yellow
Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)	50-100	good-luxuriant	>=70%	golden yellow
Salmonella Typhi ATCC 6539	50-100	good-luxuriant	>=70%	blue/colourless
Staphylococcus aureus subsp. aureus ATCC 6538 (00032*)	50-100	good-luxuriant	>=70%	golden yellow
		good-luxuriant	>=70%	
Staphylococcus epidermidis ATCC 12228 (00036*)	50-100	good-luxuriant	>=70%	blue/colourless

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°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. 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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

Reference

1. Carney D. N., Fossieck B. E., Parker R. H. et al, 1982, Rev. Infect. Dis. H., 1-12.
2. Atlas R. M., 2004, Handbook of Microbiological Media, 3rd Edition,CRC Press.
3. Chapman, Lieb, Bereus and Curcio, 1937, J. Bacteriol., 33:533.
4. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed.,American Public Health Association, Washington, D.C.
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
6. 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.

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