LACTOSE AGAR WITH BROMOTHYMOL BLUE

LATB-0HI-500

- **Principle**

Lactose Agar with Bromothymol Blue, originally described by Chapman et al. (1937), is a differential medium used for the detection and isolation of pathogenic staphylococci, particularly coagulase-positive Staphylococcus species. The medium is designed to exploit the ability of staphylococci to grow under relatively alkaline conditions and in the presence of bromothymol blue, allowing differentiation based on metabolic activity and associated pH changes.

The formulation contains proteose peptone and meat extract as sources of carbon, nitrogen, amino acids, vitamins and other essential nutrients required for bacterial growth. Lactose is included as the fermentable carbohydrate, enabling differentiation between organisms capable of lactose fermentation and those that do not ferment lactose or do so weakly. Bromothymol blue functions as the pH indicator, changing colour in response to acid or alkaline reactions produced during growth.

Typical staphylococcal colonies on this medium may appear deep yellow or blue-grey, depending on the degree of lactose fermentation and the resulting pH shift around the colonies. Coliform organisms may occasionally grow; however, they can generally be differentiated from staphylococci by their colony morphology and overall appearance on the medium.

- **Regulatory compliance**

This product is manufactured under a quality management system in accordance with ISO 9001 and ISO 13485, and its formulation and quality control comply with applicable international standards, such as ISO 11133, where relevant.

- **Composition**

Ingredients	**g/L**
Proteose peptone	5.00
Meat extract	3.00
Lactose	10.00
Bromothymol blue	0.17
Agar	15.00

- **Preparation**

Dissolve 33.1 grams in 1,000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121 °C), cool to 45-50 °C. Mix well and distribute aseptically in petri plates and allow to solidify. Ensure complete solidification and inoculate test sample aseptically.

- **Applications and use**

Recommended for isolation of pathogenic Staphylococci from clinical samples.

- **Quality control**

Solubility	w/o rests
Appearance	Fine powder
Colour of the dehydrated medium	Beige
Colour of the prepared medium	Green-blue
Final pH (25 °C)	8.6 ± 0.2

- **Microbiological test**

Cultural characteristics observed after incubation at 35±2 °C for 18-48 hours. Inoculum 50-100 CFU.

Microorganism	ATCC	Growth	Recovery	Colony colour
Escherichia coli	8739	Luxuriant	≥ 70%	Yellow
Escherichia coli	25922	Luxuriant	≥ 70%	Yellow
Staphylococcus aureus	25923	Luxuriant	≥ 70%	Golden yellow
Salmonella typhimurium	14028	Luxuriant	≥ 70%	Blue or colourless
Staphylococcus epidermidis	12228	Luxuriant	≥ 70%	Blue or colourless

- **Storage**

The product is highly hygroscopic; keep the container always closed and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Temp. Min.:2 °C Temp. Max.:25 °C.

Note: Sterilize media immediately after reconstitution.

- **Bibliography**

Atlas, R. M. (2005). Handbook of media for environmental microbiology. CRC press.

Chapman, Lieb, Bereus and Curcio, 1937, J. Bacteriol., 33: 533.Revision: 04 / 2019

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.

- **Product use limitation**

This product is developed, designed and supplied exclusively for research use only. It is not intended for diagnostic applications or drug development, and it is not suitable for administration to humans or animals.