Lactose Agar with Bromothymol Blue and Crystal Violet (Drigalski)

Cat. 1344

Selective medium for Gram-negative Enterobacteria in urine and feces.

Practical information

Aplications	Categories
Selective enrichment	Enterobacteria

Industry: Clinical

Principles and uses

Lactose Agar with Bromothymol Blue and Crystal Violet (Drigalski) is a selective medium used for the isolation of Gram-negatives bacteria from urine, feces and other clinical specimens.

Casein peptone, meat peptone and beef extract provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is a source of vitamins, particularly of the B-group. Lactose is the fermentable carbohydrate providing carbon and energy. Sodium thiosulfate, sodium desoxycholate and crystal violet inhibit Gram-positive organisms. Bromothymol blue is the pH indicator. Bacteriological agar is the solidifying agent.

The growth of Gram-negative bacteria depends on their ability to ferment lactose. Coliform organisms (E.coli, Klebsiella, Citrobacter, Enterobacter) ferment lactose with acid production, resulting in a colour change of the pH indicator bromothymol blue that turns yellow when acid is produced. Gram negative lactose non fermenting bacteria (Salmonella, Shigella, Proteus, Alkaligenes, Pseudomonas, etc) grow with blue-green colonies.

Formula in g/L

Bacteriological agar	12	Beef extract	3
Bromothymol blue	0,08	Casein peptone	7,5
Crystal violet	0,005	Lactose	15
Meat peptone	7,5	Sodium deoxycholate	1
Sodium thiosulfate	1	Yeast extract	3

Preparation

Suspend 50 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 115 ºC for 20 minutes. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

- Streak the specimen over the surface of the plate.
- Incubate for 18 to 24 hours at 35±2 ºC C in an aerobic atmosphere.
- Observe the amount of growth, colony size, pigmentation, and selectivity.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Dark green	7,2 ± 0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)

Microrganisms	Specification	Characteristic reaction
Klebsiella pneumonieae ATCC 13883	Good growth	Colony color yellow
Salmonella typhimurium ATCC 14028	Good growth	Colony color blue-green
Escherichia coli ATCC 25922	Good growth	Colony color yellow
Alcaligenes faecalis ATCC 8750	Good growth	Colony color blue-green

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

V. Drigalski, H. Conrad, Z. Hyg. Infektionskr., 39, 298 (1902)
Wurtz, Technique Bacteriologique, Paris, Masson (1897)
Williams and Wilkins, Baltimore (1985)