Bromo Cresol Purple Agar w/Lactose

This medium is recommended for the isolation of coliforms.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactose</td>
<td>10.000</td>
</tr>
<tr>
<td>Peptone mixture</td>
<td>5.000</td>
</tr>
<tr>
<td>Beef extract</td>
<td>3.000</td>
</tr>
<tr>
<td>Bromocresol purple</td>
<td>0.025</td>
</tr>
<tr>
<td>Agar</td>
<td>10.000</td>
</tr>
</tbody>
</table>

Final pH (at 25°C) 6.8±0.2

**Formula adjusted, standardized to suit performance parameters**

**Directions**

Suspend 28.03 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

**Principle And Interpretation**

Enteropathogens are well known to be transmitted via contaminated food or water. They are often implicated in major foodborne outbreaks worldwide. The common implications are gastroenteritis, vomiting, diarrhea, nausea, malaise, fever in humans. Enterotoxins produced by members of *Enterobacteriaceae* are important in the pathogenesis. *Salmonella* causes enteric fevers and food poisoning in humans. The most frequent sources of *Salmonella* food poisoning are poultry, meat, milk and milk products. Even salads and uncooked vegetables may cause infection if contaminated. Similarly *Vibrio* can enter the human host through contaminated foods or water, causing intestinal infections and Cholera.

Bromo Cresol Purple Agar w/Lactose is a non-inhibitory medium used for detection and isolation of coliforms and in differential study based on lactose fermentation. All coliforms ferment lactose with acid and gas production. The lactose fermenting organism changes the colour of the medium from purple to yellow. Peptone mixture and Beef extract provide nitrogen, vitamins, amino acids. Lactose acts as a source of carbohydrate, while Bromocresol purple is a pH indicator.

**Quality Control**

**Appearance**
Cream to greenish yellow homogeneous free flowing powder

**Gelling**
Firm, comparable with 1.0% Agar gel

**Colour and Clarity of prepared medium**
Light purple coloured, clear to slightly opalescent gel forms in Petri plates

**Reaction**
Reaction of 3.32% w/v aqueous solution at 25°C. pH : 6.8±0.2

**pH**
6.60-7.00

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

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
<th>Colour of colony</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Escherichia coli</em> ATCC 25922</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>&gt;=70%</td>
<td>yellow</td>
</tr>
</tbody>
</table>

Please refer disclaimer Overleaf.
### Klebsiella pneumoniae ATCC 13883
- **Growth**: 50-100
- **Appearance**: good-luxuriant
- **Dye Retention**: >=70%
- **Color**: yellow

### Enterobacter aerogenes ATCC 13048
- **Growth**: 50-100
- **Appearance**: good-luxuriant
- **Dye Retention**: >=70%
- **Color**: yellow

### Salmonella Typhimurium ATCC 14028
- **Growth**: 50-100
- **Appearance**: good-luxuriant
- **Dye Retention**: >=70%
- **Color**: colourless

### Shigella flexneri ATCC 12022
- **Growth**: 50-100
- **Appearance**: good-luxuriant
- **Dye Retention**: >=70%
- **Color**: colourless

### Proteus vulgaris ATCC 13315
- **Growth**: 50-100
- **Appearance**: good-luxuriant
- **Dye Retention**: >=70%
- **Color**: colourless

### Storage and Shelf Life
Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

### Reference
1. MacFaddin, Jean F., Media for isolation-Cultivation-Identification-Maintenance of Medical Bacteria Vol1, 1985, Baltimore, MD. Williams & Wilkins.

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