

# Deoxycholate Lactose Agar

Selective agar for the enumeration and isolation of Coliform bacteria from milk, water, ice-cream and other materials.

Version: 9<sup>th</sup> June, 2011

## Mode of Action

The concentrations of deoxycholate and citrate are so low that the coliform bacteria can grow normally whereas the accompanying Gram-positive bacteria are largely inhibited. Degradation of lactose to acid is detected by the pH indicator neutral red which changes its colour to red, and by a zone of precipitation caused by bile acid.

## Typical Composition (g/litre)

Peptones 10.0; lactose 10.0; sodium chloride 5.0; sodium citrate 2.0; sodium deoxycholate 0.5; neutral red 0.033; agar-agar 12.5.

## Preparation

Suspend 40 g/litre in demin. water and heat in a boiling water bath or a current of steam. Do not autoclave, pour plates.

pH:  $7.1 \pm 0.2$  at 25 °C.

The plates are clear and red-brown.

- The culture medium should be prepared and used the same day.

## Experimental Procedure and Evaluation

Inoculate the culture medium by the spread-plate or pour-plate method.

Incubation: 24 hours at 35 °C aerobically.

| Appearance of Colonies  | Microorganisms  |
|---|---|
| Red, surrounded by zone of precipitate                          | Lactose-positive:<br><i>Escherichia coli</i>  |
| Pale with a pink centre and surrounded by a zone of precipitate | Weakly lactose-positive:<br><i>Enterobacter</i> , <i>Klebsiella</i> and others                            |
| Colourless  | Lactose-negative:<br><i>Salmonella</i> , <i>Shigella</i> , <i>Proteus</i> , <i>Pseudomonas</i> and others |

## Ordering Information

| Product                   | Ordering No. | Pack size |
|---------------------------|--------------|-----------|
| Deoxycholate Lactose Agar | 1.02894.0500 | 500 g     |

## Quality control

| Test strains                             | Inoculum (cfu/ml) | Recovery rate (%) | Colony colour | Precipitate |
|--|-------------------|-------------------|---------------|-------------|
| <i>Escherichia coli</i> ATCC 25922       | $10^3$ - $10^5$   | $\geq 40$         | red           | +           |
| <i>Klebsiella pneumoniae</i> ATCC 13883  | $10^3$ - $10^5$   | $\geq 40$         | pink /red     | ±           |
| <i>Enterobacter cloacae</i> ATCC 13047   | $10^3$ - $10^5$   | $\geq 40$         | pink / red    | ±           |
| <i>Salmonella typhimurium</i> ATCC 14028 | $10^3$ - $10^5$   | $\geq 40$         | colourless    | -           |
| <i>Salmonella enteritidis</i> ATCC 13076 | $10^3$ - $10^5$   | $\geq 40$         | colourless    |             |
| <i>Shigella flexneri</i> ATCC 12022      | $10^3$ - $10^5$   | $\geq 40$         | colourless    |             |
| <i>Proteus mirabilis</i> ATCC 14273      | $10^3$ - $10^5$   | $\geq 40$         | colourless    |             |
| <i>Enterococcus faecalis</i> ATCC 11700  | $>10^5$           | $< 0.01$          |               |             |
| <i>Staphylococcus aureus</i> ATCC 25923  | $>10^5$           | $< 0.01$          |               |             |



*Salmonella enteritidis* ATCC 13076



*Enterobacter cloacae* ATCC 13047