# Desoxycholate Lactose Agar

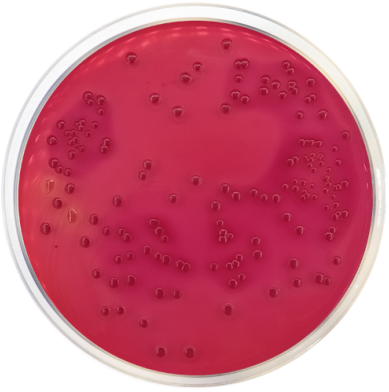
Cat. 1025

Differential and slightly selective medium for the isolation of gram-negative enteric bacilli.

## Practical information

| Aplications | Categories |
|---|---|
| Selective isolation | Gram-negative enteric bacilli |
| Differentiation | Gram-negative enteric bacilli |

Industry: Water / Dairy products



## Principles and uses

Desoxycholate Lactose Agar is a differential and slightly selective medium for the isolation of gram-negative enteric bacilli. It is used to isolate and enumerate coliforms from water, wastewater, milk and dairy products.

The desoxycholate and citrate salts inhibit the development of gram-positive organisms. The Bacteriological peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Lactose is the fermentable carbohydrate providing carbon and energy. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Neutral red is a pH indicator. Bacteriological agar is the solidifying agent.

In general, it is used for the enumeration of coliforms by the dilution method. This is accomplished by adding 1 ml of the desired dilution to an empty Petri dish and pouring it on the cooled (45-50 °C) medium. If the product to be tested has not been diluted (e.g. pasteurized milk), it can be added directly to the melted medium and poured plates. It is convenient to put a second layer of medium on the plate after initial solidification.

Coliform colonies are lenticular, pink or bright red. Differentiation is made on the basis of the lactose fermentation: lactose fermenters in the presence of neutral red give red colonies while non-fermenters give colorless colonies (Salmonella and Shigella). If no second layer is applied, the colonies of Escherichia coli which develop on the surface of the plate are large and pink while Enterobacter aerogenes are pale with a pink center.

## Formula in g/L

| | | | |
|---|---|---|---|
| Bacteriological agar | 15 | Bacteriological peptone | 10 |
| Lactose | 10 | Neutral red | 0,03 |
| Sodium chloride | 5 | Sodium citrate | 2 |
| Sodium deoxycholate | 0,5 | | |

## Preparation

Suspend 42,5 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. AVOID OVERHEATING. DO NOT AUTOCLAVE. Cool to 45-50 ºC and dispense into Petri dishes. Overheating may increase the degree of inhibition.

## Instructions for use

Incubate at 35±2 ºC for 18-24 hours.

## Quality control

| Solubility | Appareance | Color of the dehydrated medium | Color of the prepared medium | Final pH (25ºC) |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| A slight precipitate may appear | Fine powder | Pink-beige | Red-orange | 7,1±0,2 |

## Microbiological test

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

| Microorganisms | Specification | Characteristic reaction |
|---|---|---|
| Enterococcus faecalis ATCC 11700 | Total inhibition | |
| Shigella flexneri ATCC 12022 | Good growth | Colorless colonies, no precipitate |
| Enterobacter cloacae ATCC 13047 | Good growth | Pink colonies, slight precipitate |
| Klebsiella pneumonieae ATCC 13883 | Good growth | Red colonies, precipitate |
| Salmonella typhimurium ATCC 14028 | Good growth | Colorless colonies, no precipitate |
| Escherichia coli ATCC 25922 | Good growth | Red colonies, precipitate |

## Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

## Bibliography

Standard Methods for the Examination of Dairy Products. Eleventh Edition APHA Inc. New York 1960.
Recommended Methods for the Microbiological Examination of Foods APHA Inc. New York 1960.
American Public Health Association. 1960. Standard methods for the examination of water and wastewater, 1 1th ed. American Public Health Association, Washington, D.C.