

## Technical Information

### Leifsons Deoxycholate Agar, Modified

#### Product Code: DM 2138

**Application:** - Leifsons Deoxycholate Agar, Modified is recommended for selective isolation and differentiation of *Salmonella* and *Shigella* species.

#### Composition\*\*

Ingredients	Gms / Litre
Peptone	5.000
Meat extract B #	5.000
Lactose	10.000
Sodium citrate	5.000
Ferric citrate	1.000
Sodium deoxycholate	2.500
Sodium thiosulphate	5.000
Neutral red	0.025
Agar	15.000
Final pH ( at 25°C)	7.0±0.2

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

# Equivalent to Beef extract

#### Principle & Interpretation

Leifson Deoxycholate Agar, was originally described by Leifson (1) and further modified by Hynes (2) for selective isolation and differentiation of *Salmonella* and *Shigella* species. This medium is the modification of Leifson Agar for the isolation and maximum recovery of intestinal pathogens. Leifson Deoxycholate Agar, Modified is a less selective medium and is used for direct sampling of faeces

Peptone and meat extract B provide essential growth nutrients. Sodium citrate and sodium deoxycholate prevent all gram- positive bacteria and coliforms but allow the gram-negative bacilli to grow. Lactose is added to the medium to allow differentiation of lactose fermenting bacteria such as, *Escherichia coli* from non-lactose fermenting species, such as *Salmonella*, *Proteus* and *Shigella*. Lactose fermenting strains grow as red to pink colonies because of absorption of neutral red indicator. Non fermenting species grow as colourless colonies. Ferric citrate and sodium thiosulphate help in H<sub>2</sub>S determination.

#### Methodology

Suspend 48.52 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE OR REMELT. Excessive heating is detrimental. Cool to 45-50°C. Shake well before pour into sterile Petri plates.

#### Quality Control

##### Appearance

Light yellow to pink homogeneous free flowing powder

##### Gelling

Firm, comparable with 1.5% Agar gel

##### Colour and Clarity

Reddish orange coloured clear to slightly opalescent gel forms in Petri plates

**Reaction**

Reaction of 4.85% w/v aqueous solution at 25°C. pH : 7.0±0.2

**pH Range**

6.80-7.20

**Cultural Response**

DM2138: Cultural characteristics observed after an incubation at 35-37°C for 28-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
<i>Enterococcus faecalis</i> ATCC 29212	≥10 <sup>3</sup>	inhibited	0%	-
<i>Escherichia coli</i> ATCC 25922	50-100	none-poor	≤10%	pink with zone of precipitation
<i>Salmonella Typhi</i> ATCC 6539	50-100	good-luxuriant	≥50%	colourless – tan
<i>Salmonella Typhimurium</i> ATCC 14028	50-100	good-luxuriant	≥50%	colourless, black centred colonies
<i>Salmonella Enteritidis</i> ATCC 13076	50-100	good-luxuriant	≥50%	colourless, black centred colonies
<i>Shigella sonnei</i> ATCC 25931	50-100	good-luxuriant	≥50%	Colourless

## Storage and Shelf Life

**Dried Media:** Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.**Prepared Media:** 2-8° in sealable plastic bags for 2-5 days.

## Further Reading

1. Leifson E., 1935, J. Pathol. Bacteriol., 40:581.
2. Hynes M., 1942, J. Pathol. Bacteriol., 40:581.
3. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.

## Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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