



Deoxycholate Citrate Agar without Sucrose

M222

Deoxycholate Citrate Agar without Sucrose is used for differentiation and identification of enteric pathogens.

Composition**

Ingredients	Gms / Litre
Biopeptone	7.000
Meat extract	3.000
Sodium deoxycholate	2.500
Sodium citrate	10.500
Lactose	5.000
Sodium thiosulphate	5.000
Neutral red	0.030
Agar	12.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 45.03 grams in 1000 ml distilled water. Heat, to boiling, to dissolve the medium completely. DO NOT OVERHEAT OR AUTOCLAVE.

Principle And Interpretation

Deoxycholate Citrate Agar without Sucrose is used for differentiation and identification of members of *Enterobacteriaceae*. Leifson (1) developed Deoxycholate Agar as a differential medium containing pure chemicals.

Deoxycholate Citrate Agar without Sucrose contains biopeptone and meat extract, which supply essential nutrients for the support of bacterial growth. Citrate and deoxycholate act as inhibitors. Sodium deoxycholate and sodium citrate inhibit gram-positive organisms. Lactose helps in differentiating enteric bacilli as lactose fermenters produce red coloured colonies while lactose non-fermenters form colourless colonies.

Citrate and iron (Fe) combination has a strong hydrolyzing effect on agar when the medium is heated, producing a soft and unelastic agar. If autoclaved the agar becomes soft and almost impossible to streak (1).

Quality Control

Appearance

Light yellow to pink homogeneous free flowing powder

Gelling

Firm, comparable with 1.2% Agar gel.

Colour and Clarity of prepared medium

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

Reaction

Reaction of 4.5% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

M222: Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
<i>Bacillus subtilis</i> ATCC 6633	>=10 ³	inhibited	0%	
<i>Escherichia coli</i> ATCC 25922	50-100	good-luxuriant	>=50%	pink with bile precipitate

<i>Enterobacter aerogenes</i> ATCC 13048	50-100	good-luxuriant	$\geq 50\%$	pink
<i>Salmonella Typhimurium</i> ATCC 14028	50-100	good-luxuriant	$\geq 50\%$	colourless
<i>Enterococcus faecalis</i> ATCC 29212	$\geq 10^3$	inhibited	0%	

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium between 2 - 8°C. Use before expiry date on the label.

Reference

1. Leifson, 1935 J. Path. Bacteriol, 40:581.

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