Technical Information

D.C.L.S. Agar, Hajna

Product Code: DM 1178

Application: - D.C.L.S. Agar, Hajna is recommended for the isolation of gram-negative enteric bacilli.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	5.000
Casein enzymic hydrolysate	5.000
Yeast extract	3.000
Beef extract	3.000
Sucrose	7.500
Lactose	7.500
Sodium citrate	10.000
Sodium thiosulphate	5.000
Sodium chloride	5.000
Sodium deoxycholate	2.500
Bromo cresol purple	0.020
Agar	20.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Salmonella infection causes salmonellosis, which ranges clinically from self-limited gastroenteritis (diarrhea, abdominal cramps and fever) to enteric fevers (including typhoid fever). *Shigella* species also cause classical bacillary dysentery characterized by severe cramping abdominal pain and diarrhea with blood and mucus.

Deoxycholate Citrate Lactose Sucrose (DCLS) Agar was originally formulated by Leifson [(1)] and further modified by Hajna and Damon [(2)]. It is a moderately selective medium for the isolation of gram-negative enteric bacilli from faecal specimens. This medium supports the growth of *Salmonella, Shigella* species and aerobic *Vibrio* s like *Vibrio* comma while coliforms and *Proteus* fail to grow. *Salmonella Pullorum* and *Salmonella Gallinarum* grow well on this medium.

The medium contains beef extract, casein enzymic hydrolysate, peptic digest of animal tissue and yeast extract, which provide essential nitrogenous and other nutrients for the growth of the organisms. Sucrose and lactose are the fermentable carbohydrates. These two sugars in the medium permit the formation of yellow colonies by the organisms that rapidly ferment either sucrose or lactose or both, e.g. Proteus vulgaris and typical coliforms. This facilitates better selection of members of the genera *Shigella* and *Salmonella* which form nearly colourless colonies. The citrate and deoxycholate are inhibitory substances in the medium & suppresses the growth of coliforms and gram-positive organisms respectively. Bromo cresol purple is the pH indicator.

Methodology

Suspend 73.52 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 50°C and pour into sterile Petri plates.

Quality Control

Physical Appearance

Light yellow to light tan homogeneous free flowing powder

Gelling

Firm, comparable with 2.0% agar gel.

Colour and Clarity of prepared medium

Bluish purple coloured, clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 7.3 5% w/v suspensions at 25°C pH: 7.2±0.2.

pH range : 7.00-7.40

Cultural Response/ characteristices

DM 1178: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
Escherichia coli ATCC 25922	50-100	luxuriant	>=50%	yellow with bile precipitate
Proteus mirabilis ATCC 25923	50-100	good-luxuriant	>=50%	colourless with bluish tinge
Salmonella Typhimurium ATCC 14028	50-100	luxuriant	>=50%	colourless with bluish tinge
Shigella flexneri ATCC 12022	50-100	luxuriant	>=50%	colourless with bluish tinge
Staphylococcus aureus ATCC 25923	50-100	luxuriant	0%	

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^{o} in sealable plastic bags for 2-5 days.

Further Reading

1. Leifson, 1935, J. Pathol. Bacteriol., 40:581.
2. Hajna and Damon, 1956, Appl. Microbiol., 4:341.

Disclaimer :

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