DCLS Agar (Desoxycholate, Citrate, Lactose, Sucrose)

Cat. 1045

Moderately selective medium for the isolation of Salmonella and Shigella from fecal specimens and urine.

Practical information

Aplications	Categories
Selective isolation	Salmonella
Selective isolation	Shigella

Industry: Clinical

CE IVD

Principles and uses

DCLS Agar is a selective medium for the primary isolation of Salmonella and Shigella from fecal specimens and urine.

The gram positive organisms, coliforms and Proteus are completely or partially inhibited by sodium citrate, sodium thiosulfate and sodium desoxycholate. Proteose peptone and beef extract provides nitrogen, vitamins, minerals and amino acids essential for growth. Lactose and sucrose are the fermentable carbohydrates, providing carbon and energy. Neutral red is the pH indicator. Bacteriological agar is the solidifying agent.

It can be used with direct streaking or with an enrichment for Salmonella in Sodium Selenite Broth (Cat. 1222) or Selenite Cystine Broth (Cat.1220). It is preferable to inoculate in duplicate: one heavily and the other diluted.

The presence of two carbohydrates in the formulation assures the formation of red colonies of those organisms, which ferment one or both of the carbohydrates.

The majority of Shigella organisms yield colorless colonies, but some strains of S. flexneri, as well as other species of Shigella, grow rapidly giving colonies that are a weak pink but are distinguished easily from Proteus or the coliforms. If Salmonella or Shigella are suspected, the colonies should be subcultured on other media for identification, such as Kligler Iron Agar (Cat. 1042), Nitrate Motility Medium Base (Cat. 1565) or Triple Sugar Iron Agar (Cat. 1046).

Formula in g/L

Bacteriological agar	12	Lactose	5
Beef extract	3	Neutral red	0,03
Sodium citrate	10,5	Sodium deoxycholate	2,5
Sodium thiosulfate	5	Sucrose	5
Proteose peptone	7		

Preparation

Suspend 50 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 OVEARHEATING. DO NOT AUTOCLAVE. Cool to 45-50 ºC, mix well and dispense into plates.

Instructions for use

For clinical diagnosis, the type of sample is feces
- Inoculate on the surface. Parallel striae with the handle or swab. Inoculation can also be done from a pre-enrichment culture.
- Incubate at 35±2 ºC for 18-24 hours.
- Reading and interpretation of the results.

Characteristics of the colonies:
- Red colonies: Coliforms
- Transparent colonies, colorless to slightly pink: Salmonella, Shigella

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Pink-beige	Orange-red	7,2±0,2

Microbiological test

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

Microrganisms	Specification	Characteristic reaction
Salmonella enteritidis ATCC 13076	Good growth	Colorless/pale pink
Proteus vulgaris ATCC 13315	Moderate growth	Colorless/pink colonies, small formation of precipitate
Salmonella typhimurium ATCC 14028	Good growth	Colorless/pale pink colonies
Escherichia coli ATCC 25922	Inhibited	Pink-red colonies

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

Hajna A.A. - J. Bact. 1945. 40: 516-517.