

D.C.L.S. HiVeg™ Agar

MV178

Intended Use:

Recommended for the isolation of gram-negative enteric bacilli.

Composition**

Ingredients	g / L
HiVeg™ peptone	6.000
HiVeg™ hydrolysate	5.000
Yeast extract	3.000
HiVeg™ extract	3.000
Saccharose (Sucrose)	7.500
Lactose	7.500
Sodium citrate	10.000
Sodium thiosulphate	5.000
Sodium chloride	5.000
Synthetic detergent No. III	1.500
Bromo cresol purple	0.020
Agar	20.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 73.52 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. **DO NOT AUTOCLAVE**. Cool to 45-50°C and pour into sterile Petri plates.

Principle And Interpretation

Salmonella infection leads to salmonellosis, which ranges clinically from self-limited gastroenteritis (diarrhea, abdominal cramps and fever) to enteric fevers (including typhoid fever). *Shigella* species 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* like *Vibrio comma* while coliforms and *Proteus* are inhibited. *Salmonella Pullorum* and *Salmonella Gallinarum* grow well on this medium. D.C.L.S. HiVeg™ Agar is prepared by using vegetable peptones in place of animal based peptones which make the media free of BSE/TSE risks. The medium contains HiVeg™ peptone, HiVeg™ hydrolysate, HiVeg™ extract 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 in the medium suppresses the growth of coliforms and gram-positive organisms respectively. Bromo cresol purple is the pH indicator.

Type of specimen

samples.

Specimen Collection and Handling:

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Further biochemical and serological tests must be carried out for further identification.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

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 7.35% w/v suspension at 25°C . pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

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

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	luxuriant	≥50%	yellow with bile precipitate
<i>Proteus mirabilis</i> ATCC 25933	50-100	good-luxuriant	≥50%	colourless with bluish tinge
<i>Salmonella</i> Typhimurium ATCC 14028 (00031*)	50-100	luxuriant	≥50%	colourless with bluish tinge
<i>Shigella flexneri</i> ATCC 12022 (00126*)	50-100	luxuriant	≥50%	colourless with a bluish tinge
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	≥10 ⁴	Inhibited	0%	
<i>Proteus hauseri</i> ATCC 13315	50-100	good-luxuriant	≥50%	Yellow

Key : *Corresponding WDCM numbers (\$) Formerly known as *Proteus vulgaris*.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference

- Leifson E., 1935, J. Pathol. Bacteriol., 40:581.
- Hajna and Damon, 1956, Appl. Microbiol., 4:341.
- Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
- Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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Disclaimer :

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