

**D.C.L.S. HiVeg™ Agar, Hajna****MV178**

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

**Composition\*\* :**

| Ingredients                | Grams/Litre |
|----------------------------|-------------|
| HiVeg peptone              | 6.00        |
| HiVeg hydrolysate          | 5.00        |
| Yeast extract              | 3.00        |
| HiVeg extract              | 3.00        |
| Sucrose                    | 7.50        |
| Lactose                    | 7.50        |
| Sodium citrate             | 10.00       |
| Sodium thiosulphate        | 5.00        |
| Sodium chloride            | 5.00        |
| Synthetic detergent No.III | 1.50        |
| Bromo cresol purple        | 0.02        |
| Agar                       | 20.00       |

Final pH (at 25°C) 7.2 ± 0.2

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

**Directions :**

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

**Principle and Interpretation :**

Deoxycholate Citrate Lactose Sucrose (DCLS) HiVeg Agar is prepared by using vegetable peptones in place of animal based peptones which are free from BSE/TSE risks. This medium is the modification of Deoxycholate Citrate Lactose Sucrose (DCLS) Agar which 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 *Vibrios* like *Vibrio comma* while coliforms and *Proteus* are inhibited. *Salmonella* serotype Pullorum and *Salmonella* serotype Gallinarum grow well on this medium.

The medium contains HiVeg extract, HiVeg hydrolysate, HiVeg peptone and yeast extract which provide essential nitrogenous and other essential 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. Sodium citrate and synthetic detergent no. III in the medium suppresses the growth of coliforms and gram-positive organisms respectively. Bromo cresol purple is the pH indicator.

**Product Profile :**

| Vegetable based (Code MV)☉   | Animal based (Code M)  |
|--|--|
| <b>MV178</b><br>HiVeg peptone<br>HiVeg extract<br>HiVeg hydrolysate<br>Synthetic detergent No. III | <b>M178</b><br>Peptic digest of animal tissue<br>Beef extract<br>Casein enzymic hydrolysate<br>Sodium deoxycholate |

|                                       |        |   |
|---------------------------------------|--------|---|
| <b>Recommended for</b>                | :      | Isolation of gram-negative enteric bacilli        |
| <b>Reconstitution</b>                 | :      | 73.52 g/l   |
| <b>Quantity on preparation (500g)</b> | :      | 6.8 L   |
|                                       | (100g) | : 1.36 L  |
| <b>pH (25°C)</b>                      | :      | 7.2 ± 0.2   |
| <b>Supplement</b>                     | :      | None  |
| <b>Sterilization</b>                  | :      | Boiling (DO NOT AUTOCLAVE).                       |
| <b>Storage</b>                        | :      | Dry Medium - Below 30°C, Prepared Medium 2 - 8°C. |

**Quality Control :****Appearance of Powder**

Tan coloured, homogeneous, free flowing powder.

**Gelling**

Firm, comparable with 2.0% Agar gel.

**Colour and Clarity**

Bluish coloured clear gel forms in petri plates. It may have a slight precipitate.

**Reaction**

Reaction of 7.35% w/v aqueous solution is pH 7.2 ± 0.2 at 25°C.

**Cultural Response**

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

| Organisms (ATCC)                       | Inoculum (CFU)                   | Growth    | Recovery | Colour of colony |
|--|----------------------------------|-----------|----------|------------------|
| <i>Escherichia coli</i> (25922)        | 10 <sup>2</sup> -10 <sup>3</sup> | luxuriant | >50%     | yellow           |
| <i>S. serotype Typhimurium</i> (14028) | 10 <sup>2</sup> -10 <sup>3</sup> | luxuriant | >50%     | colourless       |
| <i>Shigella flexneri</i> (12022)       | 10 <sup>2</sup> -10 <sup>3</sup> | luxuriant | >50%     | colourless       |
| <i>Proteus mirabilis</i> (25933)       | 10 <sup>2</sup> -10 <sup>3</sup> | good      | >30%     | colourless       |
| <i>Proteus vulgaris</i> (13315)        | 10 <sup>2</sup> -10 <sup>3</sup> | good      | >30%     | yellow           |
| <i>Staphylococcus aureus</i> (25923)   | 10 <sup>2</sup> -10 <sup>3</sup> | inhibited | 0%       | —                |

**References :**

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