

**Deoxycholate Citrate Agar, HiVeg™****MV065**

Deoxycholate Citrate Agar, HiVeg is a selective medium recommended for the isolation of enteric pathogens particularly *Salmonella* and *Shigella* species.

**Composition \*\* :**

Ingredients	Grams/Litre
HiVeg infusion	10.0
HiVeg peptone No. 3	13.0
Lactose	10.0
Synthetic detergent No. III	2.0
Neutral red	0.02
Sodium citrate	20.0
Ferric ammonium citrate	2.0
Agar	13.5

Final pH (at 25°C) 7.5 ± 0.2

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

**Directions :**

Suspend 70.52 grams in 1000 ml of distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Avoid excessive heating as it is detrimental to the medium.

**Principle and Interpretation :**

Deoxycholate Citrate Agar HiVeg is formulated by replacing animal peptone by vegetable peptone making it free of BSE/TSE risks. This medium is the modification of Deoxycholate Citrate Agar which is prepared as per the modified formula of Leifson (1). This medium is similar to the medium used for the isolation and maximum recovery of intestinal pathogens belonging to *Salmonella* and *Shigella* groups from foods (2). However, it is recommended to use less inhibitory medium when *Shigellae* have to be isolated (3). The selectivity of this medium permits the use of fairly heavy inocula without danger of overgrowth of the *Shigella* and *Salmonella* by other microflora. For the routine examination of stool and urine specimens, it is suggested that other media such as MacConkey HiVeg Agar (MV082), Bismuth Sulphite HiVeg Agar (MV027) etc. be used in conjunction with this medium. This medium is similar to Deoxycholate agar in comparison but is moderately more selective for enteric pathogens due to increased concentrations of both citrate salt and synthetic detergent No. III. Citrate salts, in such large concentration included in the formulation, are inhibitory to gram-positive bacteria and most other normal intestinal organisms. Lactose non-fermenters produce colourless colonies. Coliform bacteria, if present, form pink colonies on this medium. The reduction of ferric ammonium citrate to iron sulphide by H<sub>2</sub>S (Hydrogen sulphide) producing organisms is indicated by blackening of the central position of the colony.

**Product Profile :**

Vegetable based (Code MV)©	Animal based (Code M)
<b>MV065</b> HiVeg infusion HiVeg peptone No.3 Synthetic detergent No. III	<b>M065</b> Heart infusion Proteose peptone Sodium deoxycholate

**Recommended for** : Isolation of enteric Pathogens

**Reconstitution** : 70.52 g/l

**Quantity on preparation (500g)** : 7.09 L

**(100g)** : 1.41 L

**pH (25°C)** : 7.5 ± 0.2

**Supplement** : None

**Sterilization** : Boiling (DO NOT AUTOCLAVE)

**Storage** : Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.

**Quality Control :****Appearance of powder**

Pinkish beige coloured, homogeneous, free flowing powder.

**Gelling**

Firm, comparable with 1.35% Agar gel.

**Colour and Clarity**

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

**Reaction**

Reaction of 7.0% w/v aqueous solution is pH 7.5 ± 0.2 at 25°C.

**Cultural Response**

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

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of Colony
<i>Enterococcus faecalis</i> (29212)	10 <sup>2</sup> -10 <sup>3</sup>	inhibited	0%	-
<i>Escherichia coli</i> (25922)	10 <sup>2</sup> -10 <sup>3</sup>	poor	>10%	pink
<i>Salmonella</i> serotype Enteritidis (13076)	10 <sup>2</sup> -10 <sup>3</sup>	good - luxuriant	>50%	colourless*
<i>Salmonella</i> serotype Typhimurium (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>	good	>30%	colourless*

Key : \* = H<sub>2</sub>S production

**References :**

- Leifson, 1935, J. Path. Bact., 40:581.
- Speck M. (Ed.), 1984, Compendium of Methods for the Microbiological Examination of Foods, 2nd ed., APHA, Washington, D.C.
- Frieker C.R., 1987, J. Appl. Bact., 63:99.