HiCrome EC 0157:H7 Selective HiVeg Agar Base

MV1575

HiCrome EC O157:H7 Selective HiVeg Agar Base is recommended for selective isolation and easy detection of *Escherichia coli* O157:H7 from food samples.

Composition**

Ingredients	Gms / Litre
HiVeg hydrolysate	8.000
Sorbitol	7.000
Synthetic detergent no. 1	1.500
SLS	0.100
Chromogenic mixture	0.250
Agar	15.000
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 31.85 grams in 990 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 50°C. Add rehydrated contents of 1 vial of HiCrome EC O157:H7 Selective Supplement (FD187) aseptically. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Enterohaemorragic *E.coli* strains are also termed as verocytotoxin-producing *E.coli* (VTEC/ EHEC). Although many different serotypes of *Escherichia coli* are known to produce verocytotoxin (3) those of *Escherichia coli* O157:H7 and O157:H are so far the common types causing human infections. O157 VTEC strains have several unusual biochemical characters that are exploited in methods for their laboratory identification. They belong to the minority of *E.coli* that are ß-glucuronidase negative and do not ferment sorbitol or rhamnose within 24 hours. These can be isolated from faecal specimens by plating on media containing D-sorbitol instead of lactose.

HiCrome EC O157:H7 Selective HiVeg Agar is a slight modification of HiCrome EC O157:H7 Agar and is prepared by completely replacing animal based peptones with vegetable peptones. HiCrome EC O157:H7 Agar is based on the formulation described by Rappaport and Henigh (1). The medium contains sorbitol and chromogenic mixture instead of lactose and indicator dyes respectively. The chromogenic substrate is specifically and selectively cleaved by *Escherichia coli* O157: H7 resulting in a dark purple to magenta coloured moiety. *E.coli* forms light pink to mauve coloured colonies.

HiVeg hydrolysate provides carbonaceous, nitrogenous and growth nutrients. Sodium chloride maintains osmotic equilibrium. Addition of HiCrome EC O157:H7 Selective Supplement (FD187) makes the medium selective (2). Potassium tellurite selectively inhibits *Aeromonas* and *Providencia* species. Novobiocin inhibits gram-positive bacteria. Sodium lauryl sulphate helps to inhibit the accompanying gram-positive flora.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Light amber coloured, clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 3.18% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH
6.60-7.00

Cultural Response

Cultural characteristics observed with added HiCrome EC 0157:H7 Selective Supplement (FD187) after an incubation at 35-37°C for 18-24 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
Cultural Response				
Escherichia coli ATCC 25922	50-100	none to poor	<=10%	light pink-mauve
Escherichia coli O157:H7 NCTC 12900	50-100	luxuriant	>=50%	dark purple-magenta
Klebsiella pneumoniae ATCC 13883	>=10^3	inhibited	0%	
Pseudomonas aeruginosa ATCC 27853	50-100	fair to good	30-40%	colourless

Storage and Shelf Life

Store dehydrated powder and prepared medium at 2-8°C in tightly closed container. Use before expiry period on the label.

Reference

1.Rappaport F. and Henigh E., 1952, J. Clin. Pathol., 5:361.
2.Zadik P. M., Cahpman P. A. and Siddons C. A., 1993, J. Med. Microbiol., 39, 155-158.
3.Smith and Scottland, 1988, J. Med. Microbiol., 26:77-85

Revision : 1 / 2011