



HiCrome EC O157:H7 Selective Agar Base

M1575

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

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	8.000
Sorbitol	7.000
Bile salts mixture	1.500
Sodium lauryl sulphate	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. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. 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

Enterohaemorrhagic *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 β-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 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.

Casein enzymic 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

Please refer disclaimer Overleaf.

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 <i>Escherichia coli</i> ATCC 25922	50-100	none to poor	<=10%	light pink-mauve
<i>Escherichia coli</i> O157:H7 NCTC 12900	50-100	luxuriant	>=50%	dark purple-magenta
<i>Klebsiella pneumoniae</i> ATCC 13883	>=10 ³	inhibited	0%	
<i>Pseudomonas aeruginosa</i> ATCC 27853	50-100	fair to good	30-40%	colourless

Storage and Shelf Life

Store dehydrated powder and prepared medium at 2-8°C. 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 Scotland, 1988, J. Med. Microbiol., 26:77-85

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