



# Technical Data

## HiCrome™ EC O157:H7 Selective Agar Base, Modified

M1575A

It is recommended for selective isolation and easy detection of *Escherichia coli* O157:H7 from food samples.

### Composition\*\*

Ingredients	Gms / Litre
Tryptone	5.000
Yeast extract	3.000
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 45 - 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  $\beta$ -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 as fermentable carbohydrate and chromogenic mixture instead of lactose and indicator dyes respectively.

The chromogenic substrate is specifically and selectively cleaved by a dark purple to magenta coloured moiety. *E. coli* forms *Escherichia coli* O157: H7 resulting in a dark purple to magenta coloured moiety. *E. coli* forms bluish green coloured colonies.

Tryptone and yeast extract provides carbonaceous and nitrogenous compounds, long chain amino acids, vitamins 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

Please refer disclaimer Overleaf.

**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
<b>Cultural Response</b>				
<i>Escherichia coli</i> ATCC 25922	50-100	none to poor	<=10%	bluish green
<i>Escherichia coli</i> O157:H7 NCTC 12900	50-100	luxuriant	>=50%	dark purple-magenta
<i>Klebsiella pneumoniae</i> ATCC 13883	50-100	fair to good	30-40%	colourless-mauve (mucoïd)
<i>Pseudomonas aeruginosa</i> ATCC 27853	50-100	fair to good	30-40%	colourless
<i>Staphylococcus aureus</i> ATCC 25923	>=10 <sup>3</sup>	inhibited	0%	
<i>Bacillus subtilis</i> ATCC 6633	>=10 <sup>3</sup>	inhibited	0 %	

**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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