HiCrome™ EC O157:H7 HiCynth™ Agar Base, Modified  MCD1575A

**Intended Use:**
Recommended for selective isolation and easy detection of *Escherichia coli* O157:H7 from food samples.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>HiCynth™ Peptone No. 1 #</td>
<td>5.000</td>
</tr>
<tr>
<td>HiCynth™ Peptide No. 5 #</td>
<td>3.000</td>
</tr>
<tr>
<td>Sorbitol</td>
<td>7.000</td>
</tr>
<tr>
<td>Bile Salts Mixture</td>
<td>1.500</td>
</tr>
<tr>
<td>Sodium lauryl sulphate (SLS)</td>
<td>0.100</td>
</tr>
<tr>
<td>Chromogenic mixture</td>
<td>0.250</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
</tbody>
</table>

Final pH (at 25°C) 6.8±0.2

**Directions**
Suspend 31.85 grams in 990 ml purified / 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 (5) those of *Escherichia coli* 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 Agar is based on the formulation described by Rappaport and Henigh (5). HiCrome™ HiCynth™ EC O157:H7 Agar is the modification of the same replacing animal and vegetable peptones using synthetic peptones to avoid BSE/TSE, GMO risks. 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 *Escherichia coli* O157: H7 resulting in a dark purple to magenta coloured moiety. *E.coli* forms bluish green coloured colonies.

HiCynth™ Peptone No.1 and HiCynth™ Peptide No.5 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 (6). Potassium tellurite selectively inhibits *Aeromonas* and *Providencia* species. Novobiocin inhibits gram-positive bacteria. Sodium lauryl sulphate helps to inhibit the accompanying gram-positive flora.

**Type of specimen**
Food samples.

**Specimen Collection and Handling**
For food samples, follow appropriate techniques for sample collection and processing as per guidelines (4). After use, contaminated materials must be sterilized by autoclaving before discarding.

---

Please refer disclaimer Overleaf.
**Warning and Precautions**

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

**Limitations**

1. Due to variable nutritional requirements, some strains show poor growth on this medium.

**Performance and Evaluation**

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

**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.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
<th>Colour of Colony</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Escherichia coli ATCC 25922 (00013</em>)*</td>
<td>50-100</td>
<td>none to poor</td>
<td>&lt;=10%</td>
<td>Bluish green</td>
</tr>
<tr>
<td><em>Escherichia coli O157:H7 NCTC 12900</em></td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
<td>dark purple-magenta</td>
</tr>
<tr>
<td><em>Klebsiella pneumoniae ATCC 13883 (00097</em>)*</td>
<td>50-100</td>
<td>fair-good</td>
<td>30-40%</td>
<td>colourless-mauve(mucoid)</td>
</tr>
<tr>
<td><em>Pseudomonas aeruginosa ATCC 27853 (00025</em>)*</td>
<td>50-100</td>
<td>fair to good</td>
<td>30-40%</td>
<td>colourless</td>
</tr>
<tr>
<td><em>Staphylococcus aureus subsp. aureus ATCC 25923 (00034</em>)*</td>
<td>&gt;=10⁴</td>
<td>Inhibited</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td><em>Bacillus spizizenii subsp. subtilis ATCC 6633 (00003</em>)*</td>
<td>&gt;=10⁴</td>
<td>Inhibited</td>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

**Storage and Shelf Life**

Store dehydrated powder and the prepared medium at 2-8°C in tightly closed container. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Use before expiry date on the label.

Product performance is best if used within stated expiry period.

**Disposal**

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,5).
Reference


Disclaimer:

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.