HiCrome EC O157:H7 Agar

HiCrome EC O157: H7 Agar is a chromogenic medium recommended for isolation and differentiation of Escherichia coli O157:H7 from food and environmental samples.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casein enzymic hydrolysate</td>
<td>8.000</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</td>
<td>0.100</td>
</tr>
<tr>
<td>Chromogenic mixture</td>
<td>0.250</td>
</tr>
<tr>
<td>Agar</td>
<td>12.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>6.8±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 28.85 grams in 1000 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 and pour into sterile Petri plates. This medium can be made more selective by aseptically adding 0.25 ml of rehydrated contents of one vial of FD052 (1% Potassium Tellurite Solution) to 1000 ml molten and cooled medium (45°C).

**Principle And Interpretation**

Escherichia coli O157:H7 belongs to the Enterohemorrhagic Escherichia coli (EHEC) group and it predominates as a food borne pathogen. E.coli O157: H7 was first recognized as a human pathogen in 1982 when two outbreaks of hemorrhagic colitis were associated with consumption of undercooked ground beef that has been contaminated with this organism (1).

HiCrome EC O157:H7 Agar is a chromogenic medium recommended for the isolation and differentiation of E.coli O157:H7 from food and environmental samples. HiCrome EC O157:H7 Agar is based on the formulation described by Rappaport and Henigh (2). The medium contains sorbitol and a chromogenic mixture instead of lactose and indicator dyes respectively, as is conventionally used. The chromogenic substrate is specifically and selectively cleaved by E.coli O157: H7 resulting in a dark purple to magenta coloured moiety. E.coli give light pink - mauve coloured colonies.

Casein enzymic hydrolysate provides carbonaceous, nitrogenous and growth nutrients. Sodium chloride maintains osmotic equilibrium. Bile salts mixture and Sodium lauryl sulphate inhibits gram-positive organisms. Potassium tellurite selects the serogroups and inhibits Aeromonas species and Providencia species.

**Quality Control**

**Appearance**

Cream to yellow homogeneous free flowing powder

**Gelling**

Firm, comparable with 1.2% Agar gel.

**Colour and Clarity of prepared medium**

Light amber coloured, clear to slightly opalescent gel forms in Petri plates

**Reaction**

Reaction of 2.88% w/v aqueous solution at 25°C. pH : 6.8±0.2

**pH**

6.60-7.00

**Cultural Response**

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

Please refer disclaimer Overleaf.
Organism | Inoculum (CFU) | Growth | Recovery | Colour of Colony
--- | --- | --- | --- | ---
**Cultural Response**
* Bacillus subtilis ATCC 6633 | $\geq 10^3$ | inhibited | 0% |  
* Escherichia coli O157:H7 (NCTC 12900) | 50-100 | luxuriant | $\geq 50\%$ | dark purple-magenta  
* Escherichia coli ATCC 25922 | 50-100 | luxuriant | $\geq 50\%$ | light pink-mauve  
* Klebsiella pneumoniae ATCC 13883 | 50-100 | luxuriant | $\geq 50\%$ | blue, mucoid  
* Pseudomonas aeruginosa ATCC 27853 | 50-100 | luxuriant | $\geq 50\%$ | colourless  
* Staphylococcus aureus ATCC 25923 | $\geq 10^3$ | inhibited | 0% |  

**Storage and Shelf Life**
Store dehydrated powder and prepared medium at 2-8°C. Use before expiry period on the label.

**Reference**

Revision: 3 / 2015