HiCrome™ Selective Salmonella HiCynth™ Agar Base

**Intended use:**
Recommended for the selective isolation of *Salmonella* species 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>23,000</td>
</tr>
<tr>
<td>HiCynth™ peptone No.5 #</td>
<td>5,000</td>
</tr>
<tr>
<td>Synthetic detergent</td>
<td>3,000</td>
</tr>
<tr>
<td>Chromogenic mixture</td>
<td>8,000</td>
</tr>
<tr>
<td>Agar</td>
<td>15,000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.3±0.2</td>
</tr>
</tbody>
</table>

**Directions**

Suspend 54.00 grams in 1000 ml distilled water. Gently heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45-50°C. Aseptically add the rehydrated contents of one vial of HiCrome™ Selective Salmonella Agar Supplement (FD274). Mix well and pour into sterile Petri plates.

**Principle And Interpretation**

*Salmonella* species have been isolated from humans and almost all animals throughout the world. They cause many types of infections from mild, self-limiting gastroenteritis to life threatening typhoid fever. *Salmonella* Typhi and *Salmonella* Paratyphi A & B cause gastroenteritis, bacteremia and enteric fever, *Salmonella* Choleraesuis causes gastroenteritis and enteric fever, especially in children. *Salmonella* Typhimurium is the most frequently isolated serotype of *Salmonella*. *Salmonella* species are the major cause of food poisoning (1).

Various chromogenic media are available for the differentiation of *Salmonella* species. The original media formulated by Rambach (2) differentiates *Salmonella* based on propylene glycol utilization and presence of a chromogenic indicator. However HiCrome™ Selective Salmonella Agar Base uses chromogenic mixture for identification and differentiation of *Salmonella* species. HiCrome™ Selective Salmonella HiCynth™ Agar Baseis similar to HiCrome™ Selective Salmonella Agar Base wherein animal based peptones and bile slats are completely replaced with chemically defined peptones to avoid BSE/TSE risks associated with animal peptones. Synthetic detergent in the medium helps to restrict the growth of other organisms. Besides the selective supplement added to the medium inhibits competing microorganisms.

HiCynth™ peptone No. 1 and HiCynth™ peptone No. 5 in the medium provides nitrogenous, carbonaceous compounds, long chain amino acids, vitamins and other essential growth nutrients. Due to the presence of chromogenic mix in the medium *Salmonella* are easily distinguishable and forms purple coloured colonies while some *Enterobacteriaceae* like *Klebsiella* and *Enterobacter* forms blue to dark blue coloured colonies.

Conventional method employes the H₂S production property for *Salmonella* detection which is also exhibited by other non *Salmonella* species such as *Citrobacter*, *Proteus*, etc. Hence further biochemical confirmation is required for further identification.

This medium is specially employed for food samples where the sample is initially enriched and then isolated on HiCrome™ Selective Salmonella HiCynth™ Agar Base. *Salmonella* species give purple coloured colonies due to the enzyme specificity.

**Type of specimen**

Food samples

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Please refer disclaimer Overleaf.
Specimen Collection and Handling

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (3). After use, contaminated materials must be sterilized by autoclaving before discarding.

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 clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Being highly selective, some strains may show poor growth. 2. Most of the Salmonella strains shows purple colonies except few. 3. Final confirmation of suspected colonies must be carried out by serological and biochemical tests.

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
Light yellow to beige homogeneous free flowing powder

Gelling
Firm, comparable with 1.5 % Agar gel.

Colour and Clarity of prepared medium
Whitish cream coloured, opaque gel forms in Petri plates

Reaction
Reaction of 5.4% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH
7.10-7.50

Cultural Response
Cultural characteristics observed with added HiCrome™ Selective Salmonella Agar Supplement (FD274), after an incubation at 35-37°C for 22-24 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>Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)</td>
<td>&gt;=10³</td>
<td>inhibited</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Klebsiella pneumoniae ATCC 13883 (00097*)</td>
<td>50 -100</td>
<td>good</td>
<td>40 -50%</td>
<td>blue</td>
</tr>
<tr>
<td>Salmonella Typhimurium ATCC 14028 (00031*)</td>
<td>50 -100</td>
<td>good-luxuriant</td>
<td>&gt;=50 %</td>
<td>purple</td>
</tr>
<tr>
<td>Salmonella Enteritidis ATCC 13076 (00030*)</td>
<td>50 -100</td>
<td>good-luxuriant</td>
<td>&gt;=50 %</td>
<td>purple</td>
</tr>
<tr>
<td>Enterococcus faecalis ATCC 29212 (00087*)</td>
<td>&gt;=10³</td>
<td>inhibited</td>
<td>0 -0 %</td>
<td></td>
</tr>
</tbody>
</table>

Key: (*) Corresponding WDCM numbers

Storage and Shelf Life
Store below 2-8°C in tightly closed container and prepared medium at 2-8°C. Use before expiry period on the label. On opening, product should be properly stored dry, after tightly capping the bottle inorder to prevent lumpformation 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.

Please refer disclaimer Overleaf.
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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

Reference