**HiCrome™ RajHans Medium (Salmonella Agar)**

**Intended Use:**
Recommended for identification and differentiation of *Salmonella* species from among the members of *Enterobacteriaceae*, especially *Proteus* species from clinical and non-clinical samples.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tryptone</td>
<td>8.000</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>5.000</td>
</tr>
<tr>
<td>Peptone</td>
<td>4.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>Sodium deoxycholate</td>
<td>1.000</td>
</tr>
<tr>
<td>Agar</td>
<td>13.500</td>
</tr>
<tr>
<td>Neutral red</td>
<td>0.020</td>
</tr>
<tr>
<td>Lactose</td>
<td>3.000</td>
</tr>
<tr>
<td>Chromogenic mixture</td>
<td>7.300</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.3±0.2</td>
</tr>
</tbody>
</table>

**Directions**
Suspend 46.82 grams in 1000 ml distilled water. Mix well and heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

**Principle And Interpretation**

HiCrome™ RajHans Medium is a modification of the original formulation of Rambach (1), used for differentiation of *Salmonella* species from *Proteus* species and other enteric bacteria. The original formulation is based on the novel characteristic of *Salmonella* species to produce acid from propylene glycol, which is detected by indicators present in the medium. These media are unique, because it is not based on acid production by propylene glycol. These media like many other media such as SS Agar, XLD Agar, recommended for the identification and differentiation of *Salmonella* species are based on lactose fermentation (2).

Tryptone, peptone and yeast extract supports the luxuriant growth of bacteria by providing carbonaceous, nitrogenous compounds, long chain amino acids, vitamin B complex and other essential nutrients. Sodium deoxycholate inhibits gram-positive organisms rendering the medium selective for enteric microorganisms. The chromogenic mixture incorporated in the medium yields pink to red colonies of *Salmonella*. Lactose fermenting organisms form light purple to blue violet colonies. Other enteric gram-negative bacteria form colourless colonies.

**Type of specimen**

Clinical samples- stool, blood; Food samples

**Specimen Collection and Handling**

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (3,4).

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (5).

After use, contaminated materials must be sterilized by autoclaving before discarding.

**Warning and Precautions**

Please refer disclaimer Overleaf.
In Vitro diagnostic use only. 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. The medium is selective for *salmonella* and may not support the growth of other microorganisms.
2. Most of the *Salmonella* strains shows pink-red colonies except few which may show colourless colonies.
3. Due to nutritional variations, some strains may show poor growth.
4. 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 pinkish beige homogeneous free flowing powder

**Gelling**
Firm, comparable with 1.35% Agar gel.

**Colour and Clarity of prepared medium**
Light orange coloured, clear to slightly opalescent gel forms in Petri plates

**Reaction**
Reaction of 4.68% w/v aqueous solution at 25°C. pH : 7.3±0.2

**pH**
7.10-7.50

**Cultural Response**
Cultural characteristics observed after an incubation at 35-37°C for 24-48 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</em> ATCC 25922</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
<td>light purple</td>
</tr>
<tr>
<td><em>Proteus mirabilis</em> ATCC 25933</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
<td>colourless</td>
</tr>
<tr>
<td><em>Klebsiella pneumoniae</em> ATCC 13883</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
<td>blue-violet</td>
</tr>
<tr>
<td><em>Salmonella Typhimurium</em> ATCC 14028</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
<td>pink-red</td>
</tr>
<tr>
<td><em>Salmonella Enteritidis</em> ATCC 13076</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
<td>pink-red</td>
</tr>
<tr>
<td><em>Salmonella Typhi</em> ATCC 6539</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
<td>colourless (on prolonged incubation light pink colour may be observed) colourless</td>
</tr>
<tr>
<td><em>Shigella flexneri</em> ATCC 12022</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
<td></td>
</tr>
<tr>
<td>Staphylococcus aureus subsp. aureus ATCC 25923</td>
<td>&gt;=10³</td>
<td>inhibited</td>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

Key: (*) Corresponding WDCM numbers
Storage and Shelf Life

Store dehydrated powder 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 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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference


Disclaimer:

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