HiCrome™ Vibrio Agar

**Intended use**

HiCrome™ Vibrio Agar is recommended for the isolation, and selective chromogenic differentiation of Vibrio species from seafood.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptone</td>
<td>10.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>25.000</td>
</tr>
<tr>
<td>Sodium thiosulphate</td>
<td>5.000</td>
</tr>
<tr>
<td>Sodium citrate</td>
<td>6.000</td>
</tr>
<tr>
<td>Sodium cholate</td>
<td>1.000</td>
</tr>
<tr>
<td>Chromogenic mixture</td>
<td>5.500</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td><strong>Final pH (at 25°C)</strong></td>
<td>8.5±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 67.5 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45-50°C. Mix well before pouring into sterile Petri plates.

**Principle And Interpretation**

Vibrio’s have played a significant role in human history. Outbreaks of cholera, caused by Vibrio cholerae, can be traced back in time to early recorded descriptions of enteric infections. The Vibrio’s have also received the attention of marine microbiologists who observed that the readily cultured bacterial population in near-shore waters and those associated with fish and shell fish were predominantly Vibrio species (1). Vibrio species are mainly responsible for causing cholera and food poisoning in humans. Vibrio cholerae causes cholera due to the intake of contaminated food such as raw oysters. Vibrio parahaemolyticus is a major cause of food borne infections, causing food poisoning (2). Since Vibrio species naturally occur in sea water, worth special mention is their need for sodium chloride, although some species can grow with minimum sodium chloride concentration (1). The widely used media for Vibrio isolation are TCBS Agar and Alkaline Peptone Water (3). However accompanying sucrose-fermenting bacteria pose a problem in the identification of Vibrio species on TCBS Agar. On HiCrome™ Vibrio Agar, the colour development by Vibrio species in not affected by the presence of colonies of other bacteria. This is because, the amount of colour developed depends on the reaction of the bacterial beta-galactosidase with the substrate contained in the media (4). Peptone provides carbonaceous, nitrogenous and essential nutrients to the organisms. High concentration of sodium chloride in addition to maintaining the osmotic equilibrium also has an inhibitory action on the accompanying microflora. Sodium thiosulphate, sodium citrate and sodium cholate are used in the formulation because they can inhibit the growth of gram positive and some gram negative bacteria, but not members of Enterobacteriaceae. The proprietary chromogenic mixture incorporated in the medium helps in the chromogenic differentiation of Vibrio cholerae and Vibrio parahaemolyticus. The high (alkaline) pH of the medium helps in selective isolation of Vibrio species.

**Type of specimen**

Food samples

**Specimen Collection and Handling**

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.

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**
Not applicable

**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 light tan homogeneous free flowing powder

**Gelling**
Firm, comparable with 1.5% Agar gel

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

**Reaction**
Reaction of 6.75% w/v aqueous solution at 25°C. pH : 8.5±0.2

**pH**
8.30-8.70

**Cultural Response**
Cultural characteristics observed 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>Enterococcus faecalis ATCC</em></td>
<td>&gt;=10⁹</td>
<td>inhibited</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>29212 (00087*)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Escherichia coli ATCC</em></td>
<td>&gt;=10⁹</td>
<td>inhibited</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>25922 (00013*)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Staphylococcus aureus ATCC</em></td>
<td>&gt;=10⁹</td>
<td>inhibited</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>25923 (00034*)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Vibrio cholerae ATCC 15748</em></td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>&gt;=50%</td>
<td>purple</td>
</tr>
<tr>
<td><em>Vibrio parahaemolyticus ATCC 17802 (00037</em>)*</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>&gt;=50%</td>
<td>bluish green</td>
</tr>
</tbody>
</table>

Key : *Corresponding WDCM numbers.

**Storage and Shelf Life**
Store below 30°C in a tightly closed container and the prepared medium at 2 - 8°C. 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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (6,7).
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.