Yersinia Isolation HiVeg™ Agar  

**Intended use**

Recommended for the selective isolation of *Yersinia* species from foods.

**Composition**

<table>
<thead>
<tr>
<th><strong>Ingredients</strong></th>
<th><strong>Gms / Litre</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>HiVeg™ peptone</td>
<td>15.000</td>
</tr>
<tr>
<td>HiVeg™ extract No.1</td>
<td>8.500</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>5.000</td>
</tr>
<tr>
<td>Lactose</td>
<td>10.000</td>
</tr>
<tr>
<td>Synthetic detergent No.III</td>
<td>2.000</td>
</tr>
<tr>
<td>Sodium citrate</td>
<td>10.000</td>
</tr>
<tr>
<td>Synthetic detergent No.II</td>
<td>3.000</td>
</tr>
<tr>
<td>Sodium thiocyanate</td>
<td>8.500</td>
</tr>
<tr>
<td>Ferric citrate</td>
<td>1.000</td>
</tr>
<tr>
<td>Calcium chloride</td>
<td>1.000</td>
</tr>
<tr>
<td>Neutral red</td>
<td>0.025</td>
</tr>
<tr>
<td>Brilliant green</td>
<td>0.0003</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td><strong>Final pH (at 25°C)</strong></td>
<td>7.4±0.2</td>
</tr>
</tbody>
</table>

**Directions**

Suspend 79.02 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE OR OVERHEAT. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

**Principle And Interpretation**

*Yersinia* is a gram-negative bacillus that is usually nitrate reductase-positive, fermentative, oxidase-negative and facultative with respect to oxygen requirement. *Yersinia* is usually urease-positive and motile at 25°C but not at 35°C. It is relatively sensitive to acidic conditions; therefore acid foods and fermented products should be analyzed promptly. A variety of enrichment methods have been described for recovery of *Yersinia enterocolitica* from foods. Highly selective enteric plating media, such as SS Agar (M108) have been used for isolation of *Yersinia*. Yersinia Isolation Agar has been developed for selective isolation of *Yersinia* species and preliminary differentiation of *Y. enterocolitica* from human and animal intestinal contents (6). The medium is recommended by the ISO Committee for identification of *Yersinia* species from foods (2). This medium is similar to composition as Yersinia Isolation Agar except the animal peptones and bile salts are replaced with vegetable peptones, extracts and synthetic detergent to avoid BSE/TSE risks associated with animal peptones. HiVeg™ peptone, HiVeg™ extract No.1 and yeast extract provide nitrogenous and carbonaceous compounds, vitamin B complex, trace elements and other essential growth nutrients. Neutral red acts as the pH indicator. Lactose is the fermentable carbohydrate. Synthetic detergent inhibit *Enterobacteriaceae* but not *Y. enterocolitica*. Brilliant green and sodium citrate suppresses growth of accompanying gram-positive bacteria. Within 24 hours of incubation at 29-30°C, *Y. enterocolitica* and some species of *Enterobacteriaceae* exhibit scanty growth, however, after 48 hours, *Y. enterocolitica* colonies are well established and other *Yersinia* species start growing. For isolation, streak the primary or secondary enrichment broths after incubation on one or more selective agar plates. After appropriate incubation period, examine the plates for colonies resembling *Yersinia*.

**Type of specimen**

Food and dairy samples

**Specimen Collection and Handling**

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,5,7). 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. Further identification must be carried out by performing 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 pink homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium
Orange red coloured clear to slightly opalescent gel forms in Petri plates.

Reaction
Reaction of 7.9% w/v aqueous solution at 25°C, pH : 7.4±0.2

pH
7.20-7.60

Cultural Response
Cultural characteristics observed after an incubation at 25-30°C for 24-48 hours.

Organism | Inoculum (CFU) | Growth | Recovery |
--- | --- | --- | --- |
*Escherichia coli* ATCC 25922 (00013*) | 50-100 | none-poor | <=10% |
*Proteus mirabilis* ATCC 25933 | 50-100 | fair-good | 30-40% |
*Salmonella Typhimurium* ATCC 14028 (00031*) | 50-100 | fair-good | 30-40% |
*Shigella flexneri* ATCC 12022 (00126*) | 50-100 | none-poor | <=10% |
*Yersinia enterocolitica* ATCC 27729 | 50-100 | good-luxuriant | >=50% |

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life
Store between 10-30°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 (3,4).
Reference


Disclaimer:

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