Fluid Lactose HiVeg™ Medium

Intended use
Recommended as a pre-enrichment medium for the detection of coliform bacteria in water, dairy products and food samples.

Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>HiVeg™ peptone No. 2</td>
<td>5.000</td>
</tr>
<tr>
<td>HiVeg™ extract</td>
<td>3.000</td>
</tr>
<tr>
<td>Lactose</td>
<td>5.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>6.9±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters

Directions

Principle And Interpretation
Coliforms are rod shaped gram-negative organisms that ferment lactose with the production of acid and gas. They are regarded as bacterial indicators of sanitary quality of foods and water. Salmonella is a rod shaped gram-negative enterobacteria commonly implicated in foodborne illness. These bacteria are present in low numbers in food and other products and also may be in a stressed condition. Before subjecting them to selective enrichment, for maximum recovery a pre-enrichment is necessary. Also, the presence of non-coliform bacteria and substances indigenous to the sample may interfere with the growth and recovery of coliforms. Therefore pre-enrichment in a non-selective medium facilitates detection of sublethally injured cells. Fluid Lactose Medium is a pre-enrichment medium, recommended by APHA, for the detection of coliform bacteria in water, dairy products and food samples (1,4,5). Fluid Lactose HiVeg™ Medium is same as Fluid Lactose Medium except that the animal based peptones are completely replaced with vegetable peptones to avoid BSE/TSE risks associated with animal peptones. When competing lactose utilizing bacteria are present in the test sample, a resulting drop in pH generates a bacteriostatic effect on the competing microflora. It is also used in the performance of test for Salmonella species and Escherichia coli.

HiVeg™ peptone No. 2 and HiVeg™ extract provide essential nutrients for bacterial metabolism. Lactose is the sole source of fermentable carbohydrate. Growth with gas formation is a presumptive test for coliforms. Whenever there is larger inoculum microbial limit multiple strength lactose broth is used.

Type of specimen
Food and dairy samples; Water samples

Specimen Collection and Handling
For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (4,5).
For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (1)
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 specimens. Safety guidelines may be referred in individual safety data sheets

Limitations :
1. Further biochemical tests must be carried out for confirmation.

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
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Light amber coloured, clear solution without any precipitate

Reaction
Reaction of 1.3% w/v aqueous solution at 25°C. pH : 6.9±0.2

pH
6.70-7.10

Cultural Response
Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 48 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td># Klebsiella aerogenes ATCC 13048 (00175*)</td>
<td>50-100</td>
<td>good to</td>
<td>positive</td>
</tr>
<tr>
<td>Escherichia coli ATCC 25922 (00013*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>reaction</td>
</tr>
<tr>
<td>Enterococcus faecalis ATCC 50-100 29212 (00087*)</td>
<td>50-100</td>
<td>good to</td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>luxuriant</td>
<td>reaction</td>
</tr>
<tr>
<td>Pseudomonas aeruginosa ATCC 27853 (00025*)</td>
<td>50-100</td>
<td>good to</td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>luxuriant</td>
<td>reaction</td>
</tr>
</tbody>
</table>

Key: * Corresponding WDCM numbers

Storage and Shelf Life
Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle inorder 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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (2,3).

Reference

Revision : 01 / 2019