Lactose HiVeg™ Broth

**Intended use**
Lactose HiVeg™ Broth is used for the detection of coliform bacteria in water, foods, and dairy products as per Standard Methods.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>HiVeg™ peptone</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>

**Directions**
Suspend 13 grams in 1000 ml purified/distilled water. Heat if necessary to dissolve the medium completely. For larger inocula (10 ml or more), concentrated medium may be prepared to account for medium dilution by the inoculum. Dispense in tubes containing inverted fermentation vial (Durhams tube) as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

**Principle And Interpretation**
Examination of water, foods, ingredients and raw materials, for the presence of marker groups such as coliforms is one of the most common tests in a microbiology laboratory, partly because of the relative ease and speed with which these tests can be accomplished. Where it is claimed that drinking water has been processed for safety, the finding of such organism demonstrates a failure of the process. It is a valuable bacterial indicator for determining the extent of fecal contamination of recreational surface waters or drinking water (1, 2).

Lactose HiVeg™ Broth is prepared by using vegetable peptone in place of animal based peptone, making the medium free of BSE/TSE risks.

Lactose HiVeg™ Broth is the modification of Lactose Broth which is recommended by APHA in the performance and confirmation of the presumptive test for coliform bacteria in water (1), food (5) and milk (6). This medium was initially listed as an alternative to Lauryl Sulfate Broth in the presumptive Standard Total Coliform Multiple-Tube (MPN) Test for water analysis.

HiVeg™ Peptone and HiVeg™ Extract in the medium supply carbon, nitrogen substances, long chain amino acids, vitamins and other essential nutrients to the organisms. Lactose is a fermentable carbohydrate for the coliforms. Tubes of Lactose HiVeg™ Broth are inoculated with dilutions of water or milk, etc. under test, and incubated at 35-37°C and examined for gas formation after 24 and 48 hours. Members of the coliform group are defined as aerobic and facultative anaerobic gram-negative and non-sporing bacilli, which ferment lactose with gas formation within 48 hours at 35-37°C. Large water samples may require double strength Lactose Broth to minimize the final volume.

**Type of specimen**
Clinical samples, Food and dairy samples; Water samples.

**Specimen Collection and Handling**
For clinical samples follow appropriate techniques for handling specimens as per established guidelines (3,4).
For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (5,6).
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:
In Vitro diagnostic Use. 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. Further biochemical tests must be carried out for complete identification.

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 to medium 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</td>
<td>50-100</td>
<td>luxuriant</td>
<td>positive</td>
</tr>
<tr>
<td>ATCC 13048 (00175*)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterococcus faecalis ATCC 50-100</td>
<td>luxuriant</td>
<td>negative</td>
<td></td>
</tr>
<tr>
<td>29212 (00087*)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Escherichia coli ATCC</td>
<td>50-100</td>
<td>luxuriant</td>
<td>positive</td>
</tr>
<tr>
<td>25922 (00013*)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudomonas aeruginosa ATCC 27853 (00025*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>negative</td>
</tr>
<tr>
<td>ATCC 9027 (00026*)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Escherichia coli ATCC</td>
<td>50-100</td>
<td>luxuriant</td>
<td>positive</td>
</tr>
<tr>
<td>8739 (00012*)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Escherichia coli NCTC 9002</td>
<td>50-100</td>
<td>luxuriant</td>
<td>positive</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 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).

Please refer disclaimer Overleaf.
Reference


Revision: 02 / 2019

In vitro diagnostic medical device

CE Marking

Storage temperature

HiMedia Laboratories Pvt. Limited,
23 Vadhani Industrial Estate,
LBS Marg,Mumbai-86,MS,India

CE Partner 4U ,Esdoornlaan 13, 3951 DB Maarn The Netherlands,
www.cepartner 4u.eu

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.