Mucate Control HiVeg™ Broth

**Intended Use**

Recommended for identification of enteropathogenic *Escherichia coli* and *Salmonella* species from milk and milk products on the basis of mucate utilization.

**Composition**

**Ingredients**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>HiVeg™ peptone</td>
<td>10.000</td>
</tr>
<tr>
<td>Bromo thymol blue</td>
<td>0.024</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.4±0.1</td>
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</table>

**Directions**

Suspend 10.02 grams in 1000 ml distilled water. Dispense in 5 ml amounts in screw-capped tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 10 minutes.

**Principle And Interpretation**

Mucate Control HiVeg™ Broth is prepared by vegetable peptones which are free of BSE/TSE risks associated with animal peptones. It is the modification of Mucate Broth which is prepared based on the formula originally developed by Kauffman and Petersen (1) recommended by APHA (2) for identification of enteropathogenic *Escherichia coli* from milk and milk products. This medium can also be used as an aid in differentiation of *Enterobacteriaceae* especially within *Salmonella* genus (3). Mucic acid is a saccharolactic acid or also called as tetrahydroxyadipic acid and acts as a sole carbon source in the medium. It is fermented by enteropathogenic *Escherichia coli*, *Salmonella* Paratyphi B and also by *Klebsiella pneumoniae* to produce acid which makes the medium yellow as the pH indicator is bromothymol blue (4). If the medium remains blue-green the organisms being tested does not utilize the mucate.

HiVeg™ peptone supplies the necessary nutrients to the organisms. Transfer a loopful of 24 hour Tryptone HiVeg Broth (MV463) culture to Mucate HiVeg Broth. Include Mucate Control Broth tube as a control. Incubate at 48±1 hour at 35-37°C. A negative test result is indicated by a blue or unchanged colour in this broth. 90% of the *E.coli* strains are mucate positive.

**Type of specimen**

Dairy samples

**Specimen Collection and Handling**

For dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (2). After use, contaminated materials must be sterilized by autoclaving before discarding.

**Warning and Precautions**

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**

Further biochemical identification is required for confirmation of species.

**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 pale green homogeneous free flowing powder

Colour and Clarity of prepared medium
Blue coloured clear solution

Reaction
Reaction of 1.0% w/v aqueous solution at 25°C. pH : 7.4±0.1

pH
7.30-7.50

Cultural Response
MV1227: Cultural characteristics observed with added 1% Mucic acid at 35 - 37° C for 24 - 48 hours.

Organism | Inoculum (CFU) | Growth | Key: (*) Corresponding WDCM numbers
--- | --- | --- | ---
Escherichia coli ATCC 25922 (00013*) | 50-100 | luxuriant |
Klebsiella pneumoniae ATCC 13883 (00097*) | 50-100 | luxuriant |
Salmonella Paratyphi B ATCC 8759 | 50-100 | luxuriant |

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 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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

Reference
5. Isenberg, H.D. Clinical Microbiology Procedures Handb0ook. 2nd Edition.