**Intended Use:**
Recommended for the detection, differentiation and enumeration of *Escherichia coli* and coliforms in water samples using membrane filter technique without further confirmation. It can also be used to isolate *E.coli* from clinical samples.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tryptone</td>
<td>20.000</td>
</tr>
<tr>
<td>Bile salts mixture</td>
<td>1.500</td>
</tr>
<tr>
<td>Chromogenic mixture</td>
<td>0.175</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.2±0.2</td>
</tr>
</tbody>
</table>

**Directions**
Suspend 21.67 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45-50°C, aseptically add desired quantity (2 to 5 ml) of broth on sterile absorbent cotton pad for saturation. The medium should be used within 24 hours of rehydration.

**Principle And Interpretation**
M-E.coli Broth is used for detection and differentiation of *Escherichia coli* and coliforms in water samples using membrane filter technique. It is based on Tryptone Bile Agar used for detection of *Escherichia coli* in foods (1) where recovery of *Escherichia coli* is faster, more reliable and accurate.

The water sample is filtered through membranes and then placed on pad saturated with M-E.coli Broth and incubated at 37°C in sealed Petri plates. The medium contains chromogenic mixture, which helps to detect glucuronidase activity of *Escherichia coli* (3). This specific enzyme differentiates *Escherichia coli* from other coliforms. *Escherichia coli* cells split the chromogenic mixture with the help of glucuronidase to give blue colouration to the colonies. Coliforms other than *Escherichia coli* turn red as they reduce TTC (2,3,5-triphenyl tetrazolium chloride). Thus, the resulting colour distinction allows simple interpretation of test without further confirmation. tryptone provides the essential growth nutrients to the organisms. Bile salts inhibit gram - positive organisms.

**Type of specimen**
Clinical samples- faeces, urine ; Water samples

**Specimen Collection and Handling**
For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5).
For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards.(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**
1. β-glucuronidase is present in 97% of *E.coli* strains, however few *E.coli* may be negative. 2. Some species may show poor growth due to nutritional variations.

**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 beige homogeneous free flowing powder

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

**Reaction**
Reaction of 2.16 % w/v aqueous solution at 25°C. pH : 7.2±0.2

**pH**
7.00-7.40

**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>Colour of Colony</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Enterobacter aerogenes</em></td>
<td>50-100</td>
<td>luxuriant</td>
<td>red</td>
</tr>
<tr>
<td>ATCC 13048 (00175*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>blue</td>
</tr>
<tr>
<td><em>Escherichia coli</em> ATCC 25922 (00013*)</td>
<td>&gt;=10³</td>
<td>inhibited</td>
<td></td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em></td>
<td>&gt;=10³</td>
<td>inhibited</td>
<td></td>
</tr>
<tr>
<td>ATCC 25923 (00034*)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key : *Corresponding WDCM numbers.

**Storage and Shelf Life**
Store dehydrated powder and prepared medium on receipt at 2-8°C. Use before expiry period 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 (4,5).

**Reference**

Revision : 02 / 2018
In vitro diagnostic medical device

CE Marking

Storage temperature

2°C – 8°C

Do not use if package is damaged

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