Tryptophan Solution

Recommended for detection of indole production.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casein enzymic hydrolysate</td>
<td>10.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>DL-Tryptophan</td>
<td>1.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.5±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters**

**Directions**

Label the ready to use LQ085 bottle. Inoculate the sample and Incubate at specified temperature and time.

**Principle And Interpretation**

Enterohemorrhagic *Escherichia coli* (EHEC) is a defined subset of Shiga-like (vero) toxin-producing *E. coli*. EHEC infections are waterborne or food borne. EHEC is ingested most commonly with undercooked ground beef (1, 2, 3). There are more than 50 serotypes of EHEC. However, *E. coli* O157:H7 is the prototype EHEC. *E. coli* O157:H7 can cause an asymptomatic infection, mild diarrhea or a diarrheal illness that is characterized by non-bloody (progressing to bloody) diarrhea and abdominal cramps (together known as hemorrhagic colitis), few leukocytes in stools and lack of significant fever (1, 2, 4). Tryptophan Medium is prepared as per the formula approved by ISO Committee (5), that is a modification of original formula of APHA where the medium is devoid of tryptophan (6). This medium is useful for the detection of indole production by *Escherichia coli* O157: H7 which is a key feature in differentiation of coliforms. Casein enzymic hydrolysate provides carbonaceous and nitrogenous sources required for the growth of microorganisms. Tryptophan is an amino acid, which serves as a substrate to study indole reaction. Certain microorganisms breakdown tryptophan with the help of the enzyme tryptophanase that mediate the production of indole by hydrolytic activity (7). The indole produced can be detected by Kovacs or Ehrlichs reagent (8). Indole combines with the aldehyde present in the above reagent to give red colour in the alcohol layer. The alcohol layer extracts and concentrates the red colour complex. The test sample is enriched in Modified Soyabean Bile Broth Base (M1286l) by incubating at 42°C for 18-24 hours. *E. coli* O157:H7 is then isolated on MacConkey Sorbitol Agar Base (M298I). Pale coloured colonies obtained on incubation at 35-37°C for 18-24 hours are reported as presumptive *E. coli* O157:H7. Presumptive colonies are subjected to indole test that makes the use of Tryptophan Medium (M1339).

**Quality Control**

**Appearance**
Sterile clear Tryptophan solution in bottles.

**Colour**
Yellow coloured medium

**Quantity of medium**
5ml of medium in bottles.

**Reaction**
7.30-7.70

**Sterility test**
Passes release criteria

**Cultural response**
Cultural characteristics observed after incubation at 35-37°C for 18-24 hours.
Organism | Indole
--- | ---
Escherichia coli ATCC 25922 | Positive
Escherichia coli 0157:H7 | Positive
Enterobacter aerogenes ATCC 13048 | Negative

**Storage and Shelf Life**
Store between 2-8°C. Use before expiry date on the label.

**Reference**