Tween Esterase Test Agar Base

Intended Use:
Recommended for confirmation of *Yersinia enterocolitica*. The composition and performance criteria are in accordance with ISO 10273:2017.

Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptone</td>
<td>10.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>Calcium chloride</td>
<td>0.100</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.4±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters

Directions
Suspend 30.01 grams in 1000 ml purified / distilled water containing 10ml of Tween 80. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 30 minutes. Mix well and distribute in tubes and allow the tubes to set in sloped form with a long slants and a minimal butt.

Principle And Interpretation
*Yersinia* is a genus of the family *Enterobacteriaceae* and are defined as rod-shaped to coccobacilli, Gram-negative bacteria (1). Tween Esterase Test Agar Base is recommended for differentiation of *Yersinia* spp. by the ISO Committee for identification of *Yersinia species* (3). The method is applicable to products intended for human consumption or for the feeding animals, and to environmental samples in the area of food production and food handling. Yersiniosis caused by *Y. enterocolitica* and *Y. pseudotuberculosis* are characterized by acute diarrhea and fever. Transmission occurs via the oral-fecal route by contaminated water and foods, or by infected individuals or animals. Hospital transmission as well as through blood transfusion has also been reported *Y. enterocolitica* is a psychrotrophic bacteria and multiplies in cold-stored foods (2).

Peptone provide nitrogenous and carbonaceous compounds, vitamin B complex, trace elements and other essential growth nutrients. Sodium chloride maintains the osmotic equilibrium.

Type of specimen
Clinical samples - Blood and stool; Food samples.

Specimen Collection and Handling:
For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5).
For food samples, follow appropriate techniques for sample collection and processing as per guidelines (6).
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. Some strains 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**
Cream to yellow homogeneous free flowing powder

**Gelling**
Firm, comparable with 1.5% Agar gel.

**Colour and Clarity of prepared medium**
Yellow coloured opalescent gel forms in tubes as slants

**Reaction**
Reaction of 3.0% w/v aqueous solution at 25°C. pH : 7.4±0.2

**pH**
7.20-7.60

**Cultural Response**
Cultural characteristics observed after an incubation at 26-27°C for 5 days.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Tween esterase test</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Yersinia enterocolitica</em> ATCC 27729</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>Variable</td>
</tr>
<tr>
<td><em>Yersinia intermedia ATCC 29909 (00217</em>)*</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>Opaque zone of precipitate</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 20-30°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 (4,5).

**Reference**

1. 2nd Edition Bergy's Manual of Systematic Bacteriology(Bottone et al.,2005)
In vitro diagnostic medical device

CE Marking

Storage temperature

10°C - 30°C

Do not use if package is damaged

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