Yeast Extract Rose Bengal Broth Base

Yeast Extract Rose Bengal Broth is used for the cold enrichment, for the recovery of *Yersinia enterocolitica* and *Yersinia pseudotuberculosis* from food samples.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeast extract</td>
<td>5.000</td>
</tr>
<tr>
<td>Disodium phosphate</td>
<td>17.250</td>
</tr>
<tr>
<td>Bile salts</td>
<td>2.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>1.000</td>
</tr>
<tr>
<td>Magnesium sulphate</td>
<td>0.010</td>
</tr>
<tr>
<td>Sodium pyruvate</td>
<td>1.000</td>
</tr>
<tr>
<td>Rose bengal</td>
<td>0.040</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.9±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 26.3 grams in 900 ml distilled water. Heat if necessary, to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 20-25°C and aseptically add 100 ml of 4% filter sterilized sorbose solution. Mix well and dispense aseptically as desired.

**Principle And Interpretation**

Yersinioses are zoonotic infections that usually affect rodents, small animals and birds, while humans are accidental hosts.

*Yersinia enterocolitica* is a significant and invasive enteric pathogen that causes several well-recognized diseases, especially in younger persons, and several uncommon post-infection syndromes (1). *Yersinia pseudotuberculosis* causes a zoonotic disease with its natural reservoir being rodents, wild animals and game birds (2). Yeast Extract Rose Bengal Broth is formulated as recommended in APHA for enrichment of *Yersinia* species from foods (3), using the cold enrichment method. *Yersinia* species are psychrotropic and therefore grow at 4°C. Yeast extract provides essential nutrients. Bile salts inhibit gram-positive organisms. Various salts help in cold enrichment of *Yersinia* species.

*Y. enterocolitica* and *Y. pseudotuberculosis* can grow at 4°C, so primary enrichment is carried out in this medium for 9 days at 4°C or 3 days at 10°C (4). From this enrichment the organisms are further enriched in secondary selective enrichment medium such as PSTA Broth (M940) and then isolated by streaking onto selective plating media such as Yersinia Selective Agar (M843), SS Agar (M108) and MacConkey Agar (M802).

**Quality Control**

**Appearance**

Light yellow to pink homogeneous free flowing powder

**Colour and Clarity of prepared medium**

Reddish pink coloured clear solution without any precipitate.

**Reaction**

Reaction of the medium (2.63% w/v 90ml Base + 10 ml of 4% w/v sorbose) at 25°C. pH : 7.9±0.2

**pH**

7.70-8.10

**Cultural Response**

Cultural characteristics observed after incubation at 4°C for 9-10 days or at 10°C for 3 days with added sorbose solution.

**Cultural Response**

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Recovery</th>
</tr>
</thead>
</table>

Please refer disclaimer Overleaf.
Cultural Response

Yersinia enterocolitica  
ATCC 27729  
50-100 good-luxuriant

Yersinia pseudotuberculosis  
ATCC 29833  
50-100 good-luxuriant

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference


Revision : 02 / 2015