Yeast Glucose Beef Broth

Yeast Glucose Beef Broth is used for the cultivation of lactic Streptococci for determining growth characteristics.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptic digest of animal tissue</td>
<td>10.000</td>
</tr>
<tr>
<td>Beef extract</td>
<td>10.000</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>3.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>Dextrose</td>
<td>5.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.0±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 33 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely and dispense as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

**Principle And Interpretation**

The Lactic Acid Bacteria (LAB) comprise a clad of gram positive low-GC, acid tolerant, non-sporulating, non-respiring rod or cocci that are associated by their common metabolic and physiological characteristics. These bacteria produce lactic acid as the major metabolic endproduct of carbohydrate fermentation. The industrial importance of the LAB is evidenced by their generally regarded safe (GRAS) status, due to their ubiquitous appearance in food and their contribution to the healthy microflora of human mucosal surfaces. The genera that comprise the LAB are at its core *Lactobacillus*, *Leuconostoc*, *Pediococcus*, *Lactococcus*, and *Streptococcus* as well as the more peripheral *Aerococcus*, *Carnobacterium*, *Enterococcus*, *Oenococcus*, *Teragenococcus*, *Vagococcus* and *Weisella* (1, 2).

Lactococci (formerly Lancefield group N streptococci) are used extensively as starter innocula in dairy fermentations, with humans estimated to consume 1018 lactococci annually. Partly due to their industrial relevance, both *Lactococcus lactis* subspecies (lactis and cremoris) are widely used as generic LAB models for research. Yeast Glucose Beef Broth is used for the cultivation of actic Streptococci (3).

Dextrose provides an energy source for the growth of microorganisms. Yeast extract, peptic digest of animal tissue and beef extract provide the necessary growth factors and nutrients. Sodium chloride helps to maintain osmotic balance of the cells.

**Quality Control**

**Appearance**

Cream to yellow homogeneous free flowing powder

**Colour and Clarity of prepared medium**

Light amber coloured clear solution without any precipitate in tubes.

**Reaction**

Reaction of 3.3% w/v aqueous solution at 25°C. pH : 7.0±0.2

**pH**

6.80-7.20

**Cultural Response**

M965: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leuconostoc dextranicum</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td>Streptococcus cremoris</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td>ATCC 19257</td>
<td></td>
</tr>
</tbody>
</table>
**Lactobacillus lactis ATCC 8000**
**good-luxuriant**

**Streptococcus thermophilus ATCC 14485**
**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