TGB Agar (Tryptone Glucose Beef Extract Agar)

TGB (Tryptone Glucose Beef Extract) Agar is recommended for enumeration of bacteria in water, air, milk and other dairy products.

**Composition**

**Ingredients**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casein enzymic hydrolysate</td>
<td>5.000</td>
</tr>
<tr>
<td>Beef extract</td>
<td>3.000</td>
</tr>
<tr>
<td>Glucose</td>
<td>1.000</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
</tbody>
</table>

Final pH (at 25°C): 7.0±0.2

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

**Directions**

Suspend 24 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

**Principle And Interpretation**

Heterotrophic plate count (HPC), formerly known as the standard plate count is a procedure for estimating the number of live heterotrophic bacteria in a sample and for measuring changes that could have occurred during various treatment procedures. TGB Agar is a modification of Skim Milk Agar developed by Bower and Hucker (1) for detecting bacteria in milk and other dairy products. TGB Agar, with added milk was used for the examination of dairy products and water (2-4). It is also recommended by APHA in testing bottled water (5).

Casein enzymic hydrolysate and beef extract provide nitrogenous and carbonaceous compounds along with other nutrients essential for the growth of organisms. Glucose serves as an energy source.

**Quality Control**

**Appearance**
Cream to yellow homogeneous free flowing powder

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

**Colour and Clarity of prepared medium**
Light yellow coloured clear to slightly opalescent gel forms in Petri plates.

**Reaction**
Reaction of 2.4% w/v aqueous solution at 25°C, pH : 7.0±0.2

**pH**
6.80-7.20

**Cultural Response**
M791: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Bacillus subtilis</em> ATCC 6633</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
</tr>
<tr>
<td><em>Enterococcus faecalis</em> ATCC 29212</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
</tr>
<tr>
<td><em>Escherichia coli</em> ATCC 25922</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
</tr>
<tr>
<td><em>Lactobacillus casei</em> ATCC 9595</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
</tr>
<tr>
<td><em>Pseudomonas aeruginosa</em> ATCC 27853</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
</tr>
</tbody>
</table>

Please refer disclaimer Overleaf.
**Staphylococcus aureus**  
ATCC 25923  
50-100 luxuriant  
>=70%

**Streptococcus pyogenes**  
ATCC 19615  
50-100 luxuriant  
>=70%

**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