High Plate Count Agar

High Plate Count Agar is used for obtaining higher colony counts by spread plate or pour plate or membrane filter technique.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptic digest of animal tissue</td>
<td>3.000</td>
</tr>
<tr>
<td>Casein soluble</td>
<td>0.500</td>
</tr>
<tr>
<td>Dipotassium phosphate</td>
<td>0.200</td>
</tr>
<tr>
<td>Magnesium sulphate</td>
<td>0.050</td>
</tr>
<tr>
<td>Iron (III) Chloride</td>
<td>0.001</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>Final pH ( at 25°C)</td>
<td>7.2±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 18.75 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**

The heterotrophic plate count (HPC), formerly known as the standard plate count is a procedure for estimating the numbers of live heterotrophic bacteria in water and measuring the changes during water treatment and distribution or in swimming pools. Different methods namely pour plate method, spread plate method and membrane filter method can be followed to obtain heterotrophic plate count. High Plate Count Agar is recommended by APHA for determining heterotrophic plate count (1). This low nutrient medium is likely to produce higher colony counts than high nutrient media.

Peptic digest of animal tissue and casein provide the necessary nitrogenous compounds for the growth of heterotrophic microorganisms. Metallic salts and dipotassium phosphate together with casein and peptic digest of animal tissue promotes the growth of higher number of microorganisms. Refer appropriate references for standard procedures (1).

**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 1.88% w/v aqueous solution at 25°C. pH : 7.2±0.2

**pH**

7.00-7.40

**Cultural Response**

M1097: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

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

**Lactobacillus casei ATCC 9595**  
50-100 luxuriant >=70%

**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 prepared medium at 2-8°C. Use before expiry period on the label.

**Reference**