Technical Information

Tartoff - Hobbs Broth (Terrific Broth)

Product Code: DM 2250

Application: - Tartoff-Hobbs (Terrific) Broth is recommended for the cultivation of recombinant strains of *Escherichia coli*.

Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casein enzymic hydrolysate</td>
<td>12.000</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>24.000</td>
</tr>
<tr>
<td>Monopotassium phosphate</td>
<td>2.200</td>
</tr>
<tr>
<td>Dipotassium phosphate</td>
<td>9.400</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.2±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Terrific Broth Medium was developed by Tartoff Hobbs for cultivation of recombinant *Escherichia coli* strains. These strains have extended growth phase when cultivated in this medium. Tartoff-Hobbs Medium supports high cellular density and mass and maintains the growth in the logarithmic phase for a long time. Due to this fact, it provides greater yields of recombinant proteins and plasmid DNA. Often, Tartoff-Hobbs (Terrific) Broth substitutes Luria Bertani Broth (DM 2151), to get enhanced yields of plasmid DNA and recombinant proteins. The procedures for inoculation, incubation and generation of recombinant strains are detailed by Sambrook et al.

Casein enzymic hydrolysate and yeast extract supply the necessary nutrients and cofactors for the excellent growth of recombinant strains of *E. coli*. The addition of extra peptone and yeast extract in the medium allows higher plasmid yield per volume. The two phosphates provide good buffering action to the medium. Glycerol is used as the carbohydrate source. Unlike glucose, glycerol is not fermented to acetic acid.

Methodology

Suspend 47.6 grams of powder media in 1000 ml distilled water containing 4 ml glycerol. Shake well and heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense as desired.

Quality Control

Physical Appearance
Cream to light yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Light amber coloured clear solution without any precipitate

Reaction
Reaction of 4.76% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH Range
7.00-7.40
Cultural Response/Characteristics

DM 2250: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours. (Growth evident by turbidity)

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escherichia coli ATCC 23724</td>
<td>50-100</td>
<td></td>
<td>good</td>
</tr>
<tr>
<td>Escherichia coli ATCC 39403</td>
<td>50-100</td>
<td></td>
<td>good</td>
</tr>
<tr>
<td>Escherichia coli ATCC 47014</td>
<td>50-100</td>
<td></td>
<td>good</td>
</tr>
<tr>
<td>Escherichia coli ATCC 53868</td>
<td>50-100</td>
<td></td>
<td>good</td>
</tr>
</tbody>
</table>

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8°C in sealable plastic bags for 2-5 days.

Further Reading


Disclaimer:

- User must ensure suitability of the product(s) in their application prior to use.
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- Do not use the products if it fails to meet specificatons for identity and performens parameters.