Luria HiCynth™ Broth is recommended for the cultivation and maintenance of recombinant strains of *Escherichia coli*

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>HiCynth™ Peptide No.2*</td>
<td>10.000</td>
</tr>
<tr>
<td>HiCynth™ Peptide No.5*</td>
<td>5.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.0±0.2</td>
</tr>
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</table>

**Directions**
Suspend 20 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense into tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

**Principle And Interpretation**

Luria Broth is one of the many modifications, suggested by different authors, of the original formulation of Luria (1). It is modified in the form of chemically defined medium free from animal and vegetable peptone. This medium is generally used for molecular and genetic studies, because of its nutritive capacity and simple composition, which can be easily altered as per specific requirements. Luria Broth is the modification of the original formulation of Luria, as described by Lennox (2). Addition of glucose helps to prepare the complete medium formulated by Lennox. Luria Broth contains half the concentration of sodium chloride than in Luria Broth, Miller (3). Therefore as per choice, the sodium chloride concentration can be altered.

Luria HiCynth™ Broth is a modification of Luria Broth prepared by completely replacing animal or vegetable based peptones with chemically defined peptones to avoid BSE/TSE risks associated with animal peptones. or used for the cultivation and maintenance of recombinant strains of *E. coli*, originally derived from *E.coli* strain K12, deficient in B vitamin production. These stains are specifically mutated to create an auxotrophic strain, unable to grow on a nutritionally deficient medium.

It is a nutritionally rich medium due to the presence of HiCynth™ Peptide No.2 and HiCynth™ Peptide No.5. It allows the recombinant strains of *E.coli* to grow more rapidly since all the nutrients and essential growth nutrients required by these strains are readily available to them and they dont need to synthesize it themselves including B-vitamin (5). Sodium chloride maintains the osmotic equilibrium. Refer appropriate references for standard procedures (3, 4, 5).

**Quality Control**

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

**Colour and Clarity of prepared medium**
Yellow to amber coloured clear solution in tubes

**Reaction**
Reaction of 2.0% w/v aqueous solution at 25°C. pH : 7.0±0.2

**pH**
6.80-7.20

**Cultural Response**
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>
</tr>
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<tbody>
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</tbody>
</table>

Please refer disclaimer Overleaf.
**Escherichia coli ATCC 23724**  
50-100 luxuriant

**Escherichia coli ATCC 25922**  
50-100 luxuriant

**Escherichia coli DH5 alpha MTCC 1652**  
50-100 luxuriant

### 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
2. Lennox E. S., 1955, Transduction of Linked Genetic Characters of the host by bacteriophage P1., Virology, 1:190.
3. Miller, 1972, Experiments in Molecular Genetics, Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.

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