



Technical Data

HiEncap™ Terrific Broth (HiEncap™ Tartoff-Hobbs Broth) EC1250CCL

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

Composition**

| Ingredients | Gms / Litre |
|----------------------------|-------------|
| Casein enzymic hydrolysate | 12.000 |
| Yeast extract | 24.000 |
| Monopotassium phosphate | 2.200 |
| Dipotassium phosphate | 9.400 |
| Final pH (at 25°C) | 7.2±0.2 |

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 1 capsule in 250 ml (4 capsules in 1000 ml) distilled or purified water containing 0.4% v/v glycerol (i.e 1 ml in 250ml or 4 ml in 1000ml media). Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense as desired.

Principle And Interpretation

Tartoff Hobbs developed the Terrific Broth Medium for cultivation of recombinant *Escherichia coli* strains. These strains have extended growth phase when cultivated in this medium (1). 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 (M1151), 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 (2).

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.

Quality Control

Appearance

Gelatin capsule containing cream to light yellow coloured granular media

Colour and Clarity of prepared medium

Light amber coloured clear solution without any precipitate.

Quantity

Each capsule contains 11.9 grams medium sufficient for 250 ml media.

Reaction

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

pH

7.00-7.40

Cultural Response

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

Cultural Response

| Organism | Inoculum (CFU) | Growth |
|----------|-------------------|--------|
|----------|-------------------|--------|

Cultural Response

| | | |
|------------------------------------|--------|------|
| <i>Escherichia coli</i> ATCC 23724 | 50-100 | good |
| <i>Escherichia coli</i> ATCC 39403 | 50-100 | good |
| <i>Escherichia coli</i> ATCC 47014 | 50-100 | good |
| <i>Escherichia coli</i> ATCC 53868 | 50-100 | good |

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

1. Tartoff K. D. and Hobbs C. A., 1987, Improved Media for Growing Plasmid and Cosmid Clones, Bethesda Res. Lab. Focus, 9:12.
2. Sambrook J., Fritsch, E. E., and Maniatis T., 1989, Molecular Cloning : A Laboratory Manual, 2nd Ed., Cold Spring Harbor Lab., Cold Spring Harbor, N.Y.

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