

Tartoff - Hobbs Broth (Terrific Broth), Granulated

GM1250

Tartoff-Hobbs (Terrific) Broth, granulated 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 47.6 grams in 1000 ml distilled water containing 4 ml glycerol. Heat if necessary to dissolve the medium completely. Dispense in tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

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 (GM1151/ 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

Cream to light yellow coloured granular medium

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

7.00-7.40

Cultural Response

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

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

Escherichia coli 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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