5X Minimum Salts

M1253

5X Minimum Salts is recommended for use in cultivation of recombinant strains of *Escherichia coli* .

Composition**

Ingredients	Gms / Litre
Disodium phosphate	33.900
Potassium phosphate	15.000
Sodium chloride	2.500
Ammonium chloride	5.000
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 56.4 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense in 200 ml aliquots. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. To prepare minimal medium, add 200 ml sterile 5X Minimal Salts to 750 ml sterile distilled water. Aseptically add 20 ml filter sterilized 20% glucose solution and 2 ml sterile 0.1 M Magnesium sulphate (MgSO4) solution. If desired, add sterile 0.1 ml of 1.0 M Calcium chloride solution or amino acids as required. Mix well. Adjust final volume to 1000 ml.

Principle And Interpretation

Escherichia coli is the most widely used microbial strain in genetic recombination studies. 5X Minimum Salt is recommended for use in cultivation of recombinant strains of *Escherichia coli* . It is prepared based on the formulation of Davis et al (1).

Ammonium chloride is added as a nitrogen source. Glucose serves as the carbon and energy source while two phosphates buffer the medium against pH changes due to utilization of carbohydrate. Calcium and magnesium ions are required in a variety of enzymatic reactions including DNA replication (2). Sodium chloride maintains the osmotic balance.

Quality Control

Appearance
White to cream homogeneous free flowing powder

Colour and Clarity of prepared medium
Colourless clear solution without any precipitate

Reaction
Reaction of 5.64% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH
6.60-7.00

Cultural Response
M1253: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth
Escherichia coli ATCC 25922	50-100	luxuriant

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expirydate on the label.

Reference

1. Davis L. G., Dibner M. D., and Battery J. F., 1986, Basic Methods in Molecular Biology, Elsevier, New York.

2. Sambrook J., Fritsch E. F. and Maniates T., 1989, Molecular Cloning : A Laboratory Manual, 2nd Ed., Cold Spring Harbour Laboratory, Cold Spring Harbour, N.Y.

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