

NZCYM Growth Agar

G018

NZCYM Growth Agar is used for cultivation of recombinant *Escherichia coli* strains.

Composition** :

Ingredients	Grams/Litre
Casein enzymic hydrolysate	10.00
Casein acid hydrolysate	1.00
Yeast extract	5.00
MgSO ₄ . 7H ₂ O	2.00
Sodium chloride	5.00
Agar	15.00

** Formula adjusted, standardized to suit performance parameters

Directions :

Suspend 36.98 grams in 1000 ml distilled water. 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 :

NZCYM Growth Agar is used for cultivation of recombinant *Escherichia coli* strains. This medium was developed by Blattner and colleagues as a rich medium for the propagation of bacteriophages which infects its cell host, *E. coli* for replication (1). Cells grow very fast in this medium as this medium provides all the amino acids, vitamins and other metabolites required for cell growth (2). Casein enzymic hydrolysate and casein acid hydrolysate provide nitrogen, amino acids, and carbon sources for the cells. Yeast extract functions as the source of vitamins and trace elements. Sodium chloride provides sodium ions for transport and osmotic balance and Magnesium sulfate is a source of magnesium ions required in a variety of enzymatic reactions, including DNA replication (3). This medium contains agar as solidifying agent. NZCYM Growth Agar allows the cells to grow more rapidly as they do not have to synthesize nucleotide precursors and other factors required for growth.

Quality Control :**Appearance of Powder :**

Cream to yellow coloured, homogeneous, free flowing powder.

Gelling :

Firm, comparable with 1.5% Agar gel.

Colour and Clarity :

Light amber coloured, clear to slight opalescent gel forms in the tube.

Cultural Response :

Cultural characteristics observed after an incubation at 35-37°C for 18 - 48 hours.

Organisms (ATCC)

Escherichia coli ATCC 23724

Escherichia coli ATCC 25922

Escherichia coli MTCC1652

Growth

good-luxuriant

good-luxuriant

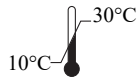
good-luxuriant

Storage and Shelf-life :

Store below 30°C and the prepared medium at 2 - 8°C. Use before expiry date on the label.

References :

- (1) Blattner, F. R., B. G. Williams, A. E. Blechl, K. Denniston-Thompson, H. E. Faber, L. A. Furlong, D. J. Grunwald, D. O. Kiefer, D. D. Moore, J. W. Schumm, E. L. Sheldon, and O. Smithies. 1977. Charon phages: Safer derivatives of bacteriophage for DNA cloning. *Science* 196:161.
- (2) Ausubel, F. M., R. Brent, R. E. Kingston, D. D. Moore, J. G. Seidman, J. A. Smith, and K. Struhl. 1994. *Current protocols in molecular biology*, vol. 1. Current Protocols, New York, NY.
- (3) Sambrook J., E. F. Fritsch, and T. Maniatis. 1989. *Molecular cloning: a laboratory manual*, 2nd ed. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.



Storage temperature



Do not use if package is damaged



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