

NZCYM Growth Medium

G017

NZCYM Growth Medium 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
Magnesium sulphate, heptahydrate	2.00
Sodium chloride	5.00

Final pH (at 25°C) 7.0 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Directions :

Suspend 23 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle and Interpretation :

NZCYM Growth Medium 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). NZCYM broth 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 light yellow coloured, homogeneous, free flowing powder.

Colour and Clarity :

Yellow to light amber coloured, clear solution without any precipitate.

Please refer disclaimer Overleaf

Reaction :

Reaction of 3.05% w/v aqueous solution is pH 7.0 ± 0.2 at 25°C.

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

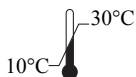
good-luxuriant

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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