MOLECULAR BIOLOGY

Molecular Biology Growth Media

Technical Information

NZCYM Growth Agar

Product Code: G1018

NZCYM Growth Agar is used for lambda and filamentous phage.

Composition**

Ingredients	Grams/Litre
Casein enzymic hydrolysate	10.00
Casein acid hydrolysate	1.00
Yeast extract	5.00
$MgSO_4$. $7H_2O$	2.00
Sodium chloride	5.00
Agar	15.00

** Formula adjusted, standardized to suit performance parameters

Methodology

Suspend 38 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 lambda and filamentous phage. This medium was developed by Blattner and colleagues as a rich medium for the propagation of bacteriophages (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)	Growth
Escherichia coli ATCC 23724	good-luxuriant
Escherichia coli ATCC 25922	good-luxuriant
Escherichia coli MTCC 1652	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.

Reference :

(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 ofbacteriophage 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 laboratorymanual, 2nd ed. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.

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