MOLECULAR BIOLOGY
Molecular Biology Growth Media

Technical Information

NZM Growth Medium

Product Code: G1023

NZM Growth Medium is used for lambda and filamentous phage.

Composition**

Ingredients	Grams/Litre
Casein enzymic hydrolysate	10.00
$MgSO_4$. $7H_2O$	2.00
Sodium chloride	5.00
Final pH (at 25°C)	7.0 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Methodology

Suspend 17 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 :

NZM Growth Medium 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 it provides all the amino acids, vitamins and other metabolites required for cell growth (2). Casein enzymic hydrolysate provides nitrogen, amino acids, and carbon sources for the cells. 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). NZM 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 yellow coloured, homogeneous, free flowing powder.
Colour and Clarity :
Light yellow coloured, clear solution without any precipitate
Reaction :
Reaction of 1.7% 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)	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 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.

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