NZCYM HiVeg Growth Medium **GV017**

NZCYM HiVeg Growth Medium is used for lambda and filamentous phage.

Composition :**

Ingredients	Grams/Litre
Soya peptone	10.00
HiVeg acid hydrolysate	1.00
Yeast extract	5.00
Magnesium sulphate anhydrous	0.98
Sodium chloride	5.00

Final pH (at 25°C) 7.0 ± 0.2
** Formula adjusted, standardized to suit performance parameters

Directions :

Suspend 21.98 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 :

In 1977 Blattner and colleagues developed a rich growth medium for the cultivation of recombinants strains of *E. coli* and propagation of bacteriophages (1). This medium provides amino acids, vitamins and other elements required for the growth of the cells (2). Soya peptone and HiVeg acid hydrolysate serve as a source of essential nutrients. Yeast extract serves as a source of B-Complex nutrients. Magnesium sulphate is a source of magnesium ions and is required in various enzymatic reactions including DNA replication (3). It also helps in the absorption of the phage to cells. Sodium chloride maintains the osmotic balance of the medium.

NZCYM HiVeg Growth Medium is prepared by using vegetable based peptone in place of animal based peptones, making the medium BSE/TSE risks free. This medium is used for propagation of lambda and filamentous phage. For optimal binding of phage to cells, 0.2% maltose (10 ml of 20% solution/litre) is added to induce the lambda receptor (LamB) on the host cells. Maltose induction of the lambda receptor is not recommended when making liquid lysate phage stocks because liberated phage will bind to membrane fragments containing a high concentration of phage receptors.

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Quality Control :

Appearance of Powder :
Light yellow coloured, may have slight greenish tinge, homogeneous, free flowing powder.
Colour and Clarity :
Light amber coloured, clear solution without any precipitate.
Reaction :
Reaction of 2.2% 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 (DH5α)	good-luxuriant

References:

1. Blattner, F. R., B. G. Williams, A. E. et al. 1977. Charon phages: Safer derivatives of bacteriophage for DNA cloning. Science 196:161.
2. Ausubel, F. M., R. Brent et al. 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 and Shelf-life :

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

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