

Technical Information

Hanahan's MiVeg Broth

Product Code : VM2252

Application:- Hanahan's MiVeg Broth is recommended for use in cultivation of recombinant strains of *Escherichia coli*.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	20.00
Yeast extract	5.00
Sodium chloride	0.50
Magnesium sulphate	2.40
Potassium chloride	0.186
Final pH (at 25°C)	7.0±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Hanahan's MiVeg Broth is prepared by adding MiVeg hydrolysate in place of Casein enzymic hydrolysate thus making this medium free from BSE/TSE risks. This medium is the modification of Hanahan's Broth which was formulated as described by Hanahan (1) and is recommended for cultivating recombinant strains of *Escherichia coli*. It is a nutritionally rich growth medium used in the preparation and transformation of competent cells. For generation of competent cells, the bacteria is first grown in Hanahan's MiVeg Broth to get desired turbidity and subjected to standard procedures such as electroporation or treatment with CaCl_2 in chilled conditions. For the survival of perforated competent cells, a rich isotonic environment is needed. Like the conventional medium, Hanahan's MiVeg Broth with 0.4% dextrose is used in the final stage of transformation, which provides carbon and energy source to *Escherichia coli* for mending the perforations and subsequent replication (2).

MiVeg hydrolysate and yeast extract supply nitrogenous compounds and growth factors for the recombinant *Escherichia coli* to recover from the stress of transformation and grow well. Potassium and sodium chloride maintains isotonic conditions. Magnesium sulphate is added to the medium as the necessary component for DNA replication.

Methodology

Suspend 28 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat if necessary to dissolve the medium completely. Dispense in tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Colour and Clarity of prepared medium

Medium amber coloured, clear solution without any precipitate.

Reaction

Reaction of 2.8% w/v aqueous solution is pH 7.0 ± 0.2 at 25°C.

pH Range

6.8 - 7.2



Dehydrated Culture Media
Bases / Media Supplements

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth
<i>Escherichia coli</i> DH5 (53868)	$10^2 - 3 \times 10^2$	Good- luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 day.

Further Reading

1. Hanahan D., 1983, J. Mol. Biol., 166:557.
2. Sambrook J., Fritsch E.E. and Maniatis T., 1989, Molecular Cloning : A Laboratory Manual, 2nd ed., Cold Spring Harbor Lab., Cold Spring Harbor, N.Y.

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