Technical Information

EC Blue MiVeg Broth

Product Code : VM2768

Application:- EC Blue MiVeg Broth is recommended for detection and confirmation of *Escherichia coli* and total coliforms from water samples, using a combination of chromogenic and fluorogenic substrates.

Composition**

Ingredients	Gms / Litre
MiVeg peptone	5.000
Sodium chloride	5.000
Sodium pyruvate	1.000
Potassium dihydrogen phosphate	1.000
Dipotassium hydrogen phosphate	4.000
Potassium nitrate	1.000
Sodium lauryl sulphate	0.100
IPTG	0.100
X-Gal	0.100
MUG	0.100
Final pH (at 25°C)	7.1±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

EC Blue MiVeg Broth is prepared by replacing animal based peptones with MiVeg peptone thus making it free from BSE /TSE risks associated with animal based peptones. It was designed for detection and confirmation of *Escherichia coli* and other coliforms. *Escherichia coli* can be distinguished from other coliforms by its unique ability to fluoresce in the presence of fluorogenic substrate (1, 2). The fluorogenic substrate, MUG is split by enzyme β-glucuronidase especially present in *Escherichia coli* . The reaction is indicated by the development of a blue fluorescence under UV light. The presence of total coliforms is indicated by blue-green colourations due to the cleavage of the chromogenic substrate (X-Gal). IPTG amplifies enzyme synthesis and increases the activity of β -galactosidase.

MiVeg Peptone provides essential carbonaceous, nitrogenous growth nutrients, amino acids, long chain peptides and vitamins required for the growth of test organism. It is also useful for the simultaneous detection of indole production. The phosphate salts in the medium provides buffering action for rapid growth of coliforms. Sodium chloride helps to maintain the osmotic balance. Sodium lauryl sulphate makes the medium selective by inhibiting accompanying microflora, especially the gram-positive organism

Methodology

Suspend 17.40 grams of powder media in 1000 ml distilled water.Mix throughly. Heat if necessary to dissolve the medium completely. Dispense into tubes or flasks or as desired. Sterilize by autoclaving at 15lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Cream to yellow (may have slight green tinge) homogeneous free flowing powder

Colour and Clarity of prepared medium

Cream coloured clear solution having slight precipitate in tubes

Reaction

Reaction of 1.74 % w/v aqueous solution at 25°C. pH : 7.1±0.2

pH range

6.90-7.30

Cultural Response/Characteristics

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

Organisms (ATCC)	Growth	Inoculum (CFU)	Colour change in medium	Fluorescence under UV light
Klebsiella pneumoniae ATCC 13883	luxuriant	50-100	blue	negative reaction
Salmonella Typhimurium ATCC 14028	luxuriant	50-100	colourless	negative reaction
Escherichia coli ATCC 25922	luxuriant	50-100	Greenish blue	negative reaction
Enterobacter aerogenes ATCC 13048	luxuriant	50-100	blue	negative reaction
Citrobacter freundii ATCC 8090	luxuriant	50-100	Bluish green	negative reaction

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: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1.Feng P.C.S. and Hartman P.A.,1982, J. Appl. Environmental Microbiol. 43. 1320-1323.
2.Harsen W., and Yourassowsky, 1984, J.Clin. Microbiol.20. 1177-1179.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
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