Technical Information

Eijkman Lactose MiVeg Broth

Product Code : VM1086

Application:- Eijkman Lactose MiVeg Broth is used for the detection and differentiation of *Escherichia coli* from other coliform organisms on the basis of their ability to grow and liberate gas from

Composition**

Ingredients	Gms / Litre
MiVeg hydrolysate No. 1	15.0
Lactose	3.0
Dipotassium phosphate	4.0
Monopotassium phosphate	1.5
Sodium chloride	5.0
Final pH (at 25°C)	6.8 ± 0.2

**Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Eijkman Lactose MiVeg Broth medium is prepared by adding MiVeg hydrolysate No.1 in place of Tryptose thus making the medium free from BSE/ TSE risks. Eijkman (1) described a method for separating the strains of *Escherichia coli* from the faeces of warm blooded and cold blooded animals. This method had limitation due to the inability to obtain growth after subculturing from positive tubes incubated at 46°C, as acidity and high temperature results in death of the culture within 24-48 hours. Perry and Hajna (2) modified Eijkman's original method by decreasing carbohydrate content and adding a phosphate buffer enabling to subculture *Escherichia coli* after incubation at 46°C for 96 hours or longer where pH was 5.6 unlike 4.5 of Eijkman medium. Perry (3) modified Eijkman medium using lactose for isolation of *Escherichia coli*. This medium can also be used for water filtration control work (4). Eijkman Lactose MiVeg Medium is the modification of this medium by incorporating vegetable peptone in place of animal based peptones. MiVeg hydrolysate No. 1 supplies the nitrogenous sources, whereas lactose serve as the energy source. The phosphates acts as buffering system and sodium chloride maintains the osmotic balance.

Methodology

Suspend 28.5 grams of powder media in 1000 ml distilled water. Mix thoroughly. For examination of 10 ml water sample,add 57 grams per 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense into tubes with inverted Durham's fermentation tubes.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

Light yellow coloured, clear solution without any precipitate, forms in tubes.

Reaction

Reaction of 2.85% w/v aqueous solution is pH 6.8 ± 0.2 at 25°C

pH range

6.6-7.0

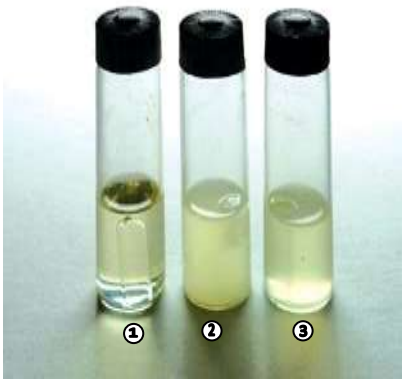
Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 45 to 46°C for 24 - 48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Gas
Enterobacter aerogenes(13048)	10^2-10^3	poor	-
Escherichia coli (25922)	10^2-10^3	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: 2-8^0 in sealable plastic bags for 2-5 days.



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1. Control
2. *Escherichia coli*
3. *Enterobacter aerogenes*

Further Reading

1. Eijkman, 1904, Centr. Bakt., 11th Abst., 37:742.
2. Perry and Hajna, 1933, J. Bact., 26:419.
3. Perry, 1939, Food Research, 4:381.
4. Standard Methods for the Examination of Water and Wastewater, 1960, 11th ed, APHA, NewYork.

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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