MacConkey HiVeg Broth (Double strength) w/ Neutral Red MV539

MacConkey HiVeg Broth (Double strength) w/ Neutral Red is recommended for the primary isolation of coliforms from large samples such as water and wastewater.

Composition**

Ingredients	Gms / Litre
HiVeg peptone	47.000
Lactose	20.000
Synthetic detergent	3.000
Sodium chloride	10.000
Neutral red	0.150
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 80.15 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Distribute into test tubes with inverted Durham tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool the tubes before inoculation.

Principle And Interpretation

MacConkey HiVeg Broth (Double strength) w/ Neutral Red is a modification of MacConkey Broth (Double strength) w/ Neutral Red. It is prepared by replacing animal based peptones with veg peptones and it is free from BSE/TSE risk. MacConkey Broth is widely used as a differential medium for detection and enumeration of coliforms from a wide variety of clinical, food and water samples. Identification is based on colour change of the medium due to the presence of the indicator neutral red (1, 2).

HiVeg peptone provides necessary nitrogen source. Lactose serves as the fermentable carbohydrate source. Sodium chloride maintains the osmotic balance of the cells. The selective action of these media is attributed to the presence of synthetic detergent, which is inhibitory to most species of gram-positive bacteria. Gram-negative bacteria usually grow well on these media and are differentiated by their ability to ferment lactose. The colour change of the medium shown by lactose-fermenters is due to production of acid from lactose and a subsequent colour change of the indicator dye when the pH of the media falls below 6.8. Lactose non-fermenting strains, such as *Shigella* and *Salmonella* do not alter the appearance of the media.

MacConkey HiVeg Broth (Double Strength) w/ Neutral Red is recommended for the primary isolation of coliforms form large samples such as water and wastewater. The medium turns pink in case of lactose fermentors and yellow in case of lactose- non-fermenters, due to neutral red. The medium has same composition in double strength to that of MacConkey Broth (M007), which contains neutral red as an indicator and is considered as a standard medium for the primary isolation as well as presumptive identification of coliform-aerogenes group of organisms in food and water.

Quality Control

Appearance
Light yellow to pink coloured homogeneous free flowing powder

Colour and Clarity of prepared medium
Red coloured clear solution without any precipitate

Reaction
Reaction of 8.02% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH
7.20-7.60

Cultural Response
MV539: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Acid	Gas
Cultural Response			
Enterobacter aerogenes ATCC 13048	50-100	Positive reaction	Positive reaction
Escherichia coli ATCC 25922	50-100	Positive reaction	Positive reaction
Salmonella Choleraesuis ATCC 12011	50-100	Negative reaction	Negative reaction
Staphylococcus aureus ATCC 25923	>=10^3	Negative reaction	Negative reaction

Storage and Shelf Life

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

Reference

1.MacConkey, 1900, The Lancet, ii:20.
2.MacConkey, 1905, J. Hyg., 5:333.

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