MacConkey Broth (Double strength) w/Neutral Red

M539S

MacConkey Broth (Double strength) w/Neutral Red is used for primary isolation of coliforms from large samples such as water or waste water.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	40.000
Lactose	20.000
Bile salts	10.000
Sodium chloride	10.000
Neutral red	0.140
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 80.14 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.

Note: Where the number of organisms is expected to be low , larger quantities of the sample may be directly added to equal amount of double strength medium in dilution bottles or flasks.

Principle And Interpretation

MacConkey Broth (Double strength) is recommended for detection of bacteria responsible for food poisoning ,for isolation, identification and enumeration of Escherichia coli (1). MacConkey Broth (Double strength) is also recommended for the primary isolation of coliforms from large samples such as water and wastewater.

MacConkey Broth has also been recommended for use in microbiological examination of foodstuffs (2) and for direct plating / inoculation of water samples for coliform counts (3). This media is also used for the Examination of Milk and Dairy Products (4) and pharmaceutical preparations (5). The selective action of this medium is attributed to bile salts, which are inhibitory to most species of gram-positive bacteria. Gram-negative bacteria usually grow well on the medium and are differentiated by their ability to ferment lactose. Lactose fermenting strains grow as yellow. Lactose non-fermenting strains, such as *Shigella* and *Salmonella* are colourless and transparent and typically do not alter appearance of the medium.

Quality Control

Appearance
Cream to yellow coloured homogeneous free flowing powder

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

Reaction
Reaction of 8.0% w/v aqueous solution at 25°C. pH : 7.5±0.2

pH
7.30-7.70

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

Cultural Response

Organism	Inoculum (CFU)	Growth	Acid	Gas

Cultural Response

Enterobacter aerogenes ATCC 13048	50-100	luxuriant	Positive reaction	Positive reaction
Escherichia coli ATCC 25922	50-100	luxuriant	Positive reaction	Positive reaction
Salmonella choleraesuis ATCC 12011	50-100	fair to good	Negative reaction	Negative reaction
Staphylococcus aureus ATCC 25923	>=10^3	inhibited		

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.Bureau of Indian Standards IS : 5887 (Part I) - 1976, reaffirm 1986.
2. Speck M. (Ed.), 1985, Compendium of Methods for the Microbiological Examination of Foods, 2nd ed., APHA, Washington, D.C.
3. Greenberg A. E., Clesceri L. S. and Eaton A. D., (Eds.), 1992, Standard Methods for the Examination of Water and Wastewater, 18th ed., APHA, Washington, D.C.
4. Marshall R. (Ed.), 1992, Standard Methods For the Examination of Dairy Products, 16th ed., APHA, Washington, D.C.
5. The United States Pharmacopoeia XXI and the National Formulary, 16th ed., 1985, United States Pharmacopeial Convention, Inc., Washington, D.C.

Revision : 2 / 2015