MacConkey Broth Purple (Double Strength) w/ BCP

M796

MacConkey Broth Purple (Double Strength) w/BCP is used for presumptive identification of coliforms from large samples.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	40.000
Lactose	20.000
Bile salts	10.000
Sodium chloride	10.000
Bromo cresol purple	0.020
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 80.02 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes with inverted Durham tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

MacConkey Broth Purple (Double Strength) w/ BCP is a modification of MacConkey Medium (1). Childs and Allen (2) demonstrated the inhibitory effect of neutral red and therefore substituted it by the less inhibitory bromocresol purple dye. BCP is more sensitive in recording pH variation in the medium.

Peptic digest of animal tissue provides essential growth nutrients. Lactose is the fermentable carbohydrate. Sodium taurocholate inhibits gram-positive organisms. Sodium chloride maintains the osmotic balance of the medium. Bromocresol purple is the pH indicator in the medium which turns yellow under acidic condition. Lactose fermention turn the medium yellow due to the acidity produced on lactose fermentation. The colour change of the dye is observed when the pH of the medium falls below 6.8. Lactose non-fermenting organisms like Salmonella and Shigella do not alter the appearance of the medium.

Liquid specimens are directly inoculated while solids have to be homogenized in appropriate diluents such as physiological saline, phosphate buffers, etc. The inoculation must be effected at 10% v/v in Durhams tubes. If the inoculum is greater than 1 ml, it is necessary to use the medium at double strength, inoculating equal volumes of specimen and medium.

Quality Control

Appearance
Light yellow to beige homogeneous free flowing powder

Colour and Clarity of prepared medium
Purple clear solution without any precipitate or scum

Reaction
Reaction of 8.0% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH
7.20-7.60

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	good-luxuriant	Positive reaction, yellow colour	Positive reaction

Escherichia coli ATCC 25922	50-100	good-luxuriant	Positive reaction, yellow colour	Positive reaction
Salmonella Choleraesuis ATCC 12011	50-100	fair to good	Negative reaction, no colour change	Negative reaction
Salmonella Typhimurium ATCC 14028	50-100	fair to good	Negative reaction,no colour change	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.MacConkey A. T., 1900, The Lancet, ii: 20.
2.Childs E. and Allen, 1953, J. Hyg: Camb. 51:468-477

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