MacConkey Broth | AS-1283

Used for the detection of *coliform* organisms in milk and water.

A selective differential culture medium called MacConkey Broth is mainly used to detect coliform bacteria in a variety of samples, such as food, water, and clinical specimens. Ox bile gives the medium its selective qualities by preventing the growth of most Gram-positive bacteria. The main carbon source is lactose, which is fermented by coliform bacteria to produce acid, as shown by the neutral red pH indicator turning yellow instead of red.

Peptone gives bacteria the nitrogenous chemicals they need to growth. Because the medium is liquid, it is not appropriate for isolating pure cultures; nonetheless, it works very well for measuring coliform populations, especially when using the membrane filtering method.

A confirmatory test for the presence of coliform frequently includes gas generation in addition to a color change.

Composition (gr/L)	
Peptone from Casein	20
Lactose	10
Ox gall	5
Bromocresol purple	0.01
Final pH at 25°C	7.1 ± 0.2

Preparation

Dissolve 35 g of the powder into 1 litter distilled water. NOTE that for testing 10 ml samples, prepare the medium in double strength concentration. Dispense in tubes containing Durham tubes. Autoclave at 121 °C for 15 minutes.

Quality Control

Dehydrated Appearance: Light beige, free-flowing, homogeneous.

Prepared Appearance: Purple, clear.

Reaction of 3.5% Solution at 25°C: pH 7.1 ± 0.2

Microbial Test Results

incubate at 35 ± 2 °C for 18 to 24 hours. NOTE that for E. coli ATCC 8739 and S. aureus ATCC 6538, inoculate 100 mL bottles and incubate at 43-44°C for 18-48 hours.

Organism (ATCC)	**Recovery**	**Acid**	**Gas**
Enterococcus faecalis (29212)	inhibition	-	-
Escherichia coli (25922)	Good	+	+
Salmonella enterica subsp. *Enterica* serotype choleraesuis (12011)	Good	-	-
Escherichia coli (8739)	Growth (at 24 hours)	N/A	N/A
Staphylococcus aureus (6538)	No Growth (at 48 hours)	N/A	N/A

Storage

Keep the container at 15-30 °C and prepared medium at 2-8 °C.