



MacConkey Broth

LQ115C

For the selective enrichment of *Escherichia coli* in accordance with harmonized methods of USP, EP, BP, JP & IP.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	20.000
Lactose	10.000
Sodium taurocholate	5.000
Sodium chloride	5.000
Bromocresol purple	0.010

**Formula adjusted, standardized to suit performance parameters

Directions

Label the ready to use LQ115C bottle. Inoculate the sample and Incubate at specified temperature and time.

Principle And Interpretation

MacConkey Broth 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. MacConkey Broth is recommended for presumptive identification of coliforms and is prepared in accordance with the harmonized method of USP/EP/BP/JP/IP (3,4,5,6,8). It is used as a presumptive test medium for coliforms in pharmaceutical products and other materials of sanitary importance (7).

Pancreatic digest of gelatin provides essential growth nutrients and serves as a rich nitrogen source. Ox-bile inhibits gram-positive organisms. Lactose monohydrate is the fermentable carbohydrate. Bromocresol purple is the pH indicator in the medium that turns yellow under acidic condition due to lactose fermentation. Gas produced gets entrapped in inverted Durhams tube.

After enrichment of *Escherichia coli* in MacConkey Broth, isolation can be done by sub-culturing on MacConkey Agar (MH081).

Quality Control

Appearance

Sterile clear MacConkey Broth in bottle.

Colour

Purple coloured solution.

Quantity of medium

100ml of medium in bottle

pH

7.10- 7.50

Sterility test

Passes release criteria

Cultural Response

Growth Promotion is carried out in accordance with the harmonized method of USP/EP/BP/JP. Cultural response was observed after an incubation at 42-44°C for specified time. Cultural characteristics observed after incubation at 30-35 °C for 24-48 hours.

Organism	Growth	Inoculum (CFU)	Acid
Growth for <=24 hours			
<i>Escherichia coli</i> ATCC 8739	luxuriant	50-100	positive reaction, yellow colour
Inhibition after 48 hours			
<i>Staphylococcus aureus</i> ATCC 6538	inhibited	$\geq 10^3$	
Additional Microbiological testing			
<i>Escherichia coli</i> ATCC 25922	luxuriant	50-100	positive reaction, yellow colour
<i>Escherichia coli</i> NCTC 9002	luxuriant	50-100	positive reaction, yellow colour
<i>Enterobacter aerogenes</i> ATCC 13048	luxuriant	50-100	positive reaction, yellow colour
<i>Staphylococcus aureus</i> ATCC 25923	inhibited	$\geq 10^3$	colour

Storage and Shelf Life

Store between 20-30°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 3. The United States Pharmacopoeia, 2011, The United States Pharmacopoeial Convention. Rockville, MD. 4. British Pharmacopoeia, 2011, The Stationery office British Pharmacopoeia 5. European Pharmacopoeia, 2011, European Dept. for the quality of Medicines. 6. Japanese Pharmacopoeia, 2008. 7. Eaton A.D., Clesceri L.S. and Greenberg A.E., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st ed, APHA Washington DC. 8. Indian Pharmacopoeia, 2010 Ministry of Health and Family Welfare Govt. of India



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