microgen
Ready Prepared Media

Technical Information

MacConkey Broth

Product Code: LQ1115

Application:- Recommended for the selective enrichment of Escherichia coli in accordance with harmonized methods of USP, EP, BP & JP.

Composition**

Ingredients	Gms / Litre
peptone G	20.000
Lactose monohydrate	10.000
Dehydrated bile ##	5.000
Bromo cresol purple	0.010
pH after sterilization (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters
Pancreatic digest of gelatin
Equivalent to Dehydrated Ox-bile

Principle & 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. This medium is prepared in accordance with the harmonized method of USP/EP/BP/JP (3-6). Gelatin peptone provides essential growth nutrients. Lactose is the fermentable carbohydrate. Dehydrated bile inhibits gram-positive organisms. Bromocresol purple is the pH indicator in the medium, which turns yellow under acidic condition. Lactose fermenting organisms 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. Transfer homogenate in Soyabean Casein Digest Medium (LQ1027) containing 1 gm or 1 ml of the preparation to be examined to 100 ml MacConkey Broth Incubation is carried at 43°- 45°C for 24-48 hours. For further isolation, subculture on MacConkey Agar (MPH1081). Growth of pink-red generally non-mucoid colonies, sometimes surrounded by a pinkish to reddish precipitation zone, indicates pressure of coliforms.

Type of specimen

Pharmaceutical samples

Specimen Collection and Handling:

For pharmaceutical samples, follow appropriate techniques for sample collection, processing as per guidelines (3-6). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Though the medium is recommended for selective isolation, further biochemical and serological testing must be carried out for further confirmation.
2. 2. For further isolation, subculture on MacConkey Agar (MPH1081) is required.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Directions

Label the ready to use LQ1115 bottle. Inoculate 50-100 cfu sample and Incubate at specified temperature and time.

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Quality Control

Appearance
Sterile clear MacConkey Broth in bottle
Colour
Purple coloured clear to slightly opalescent solution.
pH
7.10-7.50

Sterility Check
Passes release criteria.
Cultural Response
Growth Promotion is carried out in accordance with the harmonized method of USP/EP/BP/JP.
Growth promoting properties
Clearly visible growth of microorganism comparable to that previously obtained with previously tested and approved lot of medium occurs at the specified temperature for not more than the shortest period of time specified inoculating <=100 cfu (at 42-44°C for <= 24 hours).
Inhibitory properties
No growth of the test microorganism occurs for the specified temperature for not less than longest period of time specified inoculating >=100 cfu (at 42-44°C for >= 48 hours).

Organism	Inoculum (CFU)	Growth	Acid	Gas	Incubation temperature	Incubation period
Growth promoting						
Escherichia coli ATCC 8739 (00012*)	50 -100	luxuriant	positive reaction, yellow colour	positive react	42 -44 °C	<=24 hrs
Inhibitory						
Staphylococcus aureus subsp. aureus ATCC 6538 (00032*)	>=10^3	inhibited			42 -44 °C	>=48 hrs

Key : (*) Corresponding WDCM numbers,

Storage and Shelf Life

On receipt store between 15-30°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (7,8).

Further Reading

1. MacConkey A. T., 1900, The Lancet, ii: 20.
2. Childs E. and Allen, 1953, J. Hyg: Camb. 51:468-477.
3. British Pharmacopoeia, 2022, The Stationery office British Pharmacopoeia.
4. European Pharmacopoeia, 2022, European Dept. for the Quality of Medicines.
5. Japanese Pharmacopoeia, 2016.
6. The United States Pharmacopoeia, 2022, The United States Pharmacopeial Convention. Rockville, MD.
7. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition
8.Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
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- Do not use the products if it fails to meet specifications for identity and performancs parameters.