

MACCONKEY BROTH

REF.	Pack size
1420 001	100 gm
1420 002	500 gm

Intended Use

MacConkey Broth is used for selection and differentiation of coliforms and enteric pathogens in faeces, urine and other specimens.

Background

For the past fifty years, MacConkey Broth has been the standard medium for the primary isolation of coliform bacteria, and has been recommended for this purpose by the Public Health Laboratory Service Water Committee and the World Health Organization. The advantages of MacConkey Broth in the presumptive coliform test are the low proportion of false positive reactions and the fact that most strains of *Escherichia coli* produce a positive reaction within 24 hours.

Principle

Bile salt inhibits most species of gram positive bacteria. Gram-negative bacteria usually grow well on the medium and are differentiated by their ability to ferment lactose. Bromo cresol purple is the pH indicator in the medium that turns yellow under acidic condition due to lactose fermentation. Gas produced gets entrapped in inverted Durham's tube. After enrichment of *Escherichia coli* in MacConkey Broth

Components	gm/Liter
Peptone	20.0
Lactose	10.0
Bile salts	5.0
Sodium chloride	5.0
Bromo cresol purple	0.010










Final pH (at 25°C) 7.4 ± 0.2

Preparation, Storage and Stability

Store the dehydrated medium at 10-30°C and use before the expiry date on the label. Store the prepared medium at 2-8°C. After the desired amount of medium is taken out, replace the cap tightly to protect from hydration.

Procedure

1. Suspend 40 g of the powder in 1 L distilled water and mix well.
2. Distribute into containers fitted with fermentation (Durham) tubes.
3. Sterilize by autoclaving at 121°C for 15 minutes.

SYMBOLS IN PRODUCT LABELLING			
	Authorised Representative		Use by/Expiration Date
	For in-vitro diagnostic use		CAUTION. Consult instructions for use
	Batch Code/Lot number		Manufactured by
	Catalogue Number		(Xi) - Irritant
	Consult instructions for use		
	Temperature Limitation		

Quality Control

Appearance

1-Dehydrated Appearance : light beige coloured, free-flowing powder

2-Prepared Appearance : Purple coloured solution

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

Organisms

Escherichia coli
Salmonella Typhimurium
Staphylococcus aureus

Growth

luxuriant
 fair to good
 inhibited

Colour Change

yellow
 purple

Interpretation of the results

- 1-Lactose non-fermenting strains, such as *Shigella* and *Salmonella* are purple and typically do not alter appearance of the medium
- 2- Lactose Fermenting organisms grow very well in MacConkey Broth and produce acid, causing the medium to turn yellow.

Precautions

- 1-The Bromo cresol purple indicator is carefully selected for this formulation and therefore shows no inhibitory effect.

Bibliography

1. World Health Organization (1963) International Standards for Drinking Water 2nd ed., WHO, Geneva.
2. Dept. of Health (1937) Memo 139/Foods, HMSO, London.
3. Public Health Laboratory Service Water Subcommittee (1953) J. Hyg. Camb. 51. 268-277.



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