

MacConkey broth Purple

MacConkey Broth Purple w/BCP is used for presumptive identification of coliforms from variety of specimens such as water, milk, food and clinical samples.

REF: BS.1/MP01.100.0100	100 Gram	REF: BS.1/MP01.250.0250	250 Gram
REF: BS.1/MP01.500.0500	500 Gram		

CLINICAL SIGNIFICANCE

MacConkey Broth is recommended for the detection and enumeration of lactose fermenting enteric bacteria from milk and water using membrane filter technique (3). Saturate sterile absorbent cotton - pads with MacConkey Broth. The membrane filter is then aseptically placed on the saturated sterile absorbent cotton pads.

METHOD PRINCIPLE

MacConkey broth is widely used as a differential medium for detection and enumeration of coliforms from wide variety of clinical samples, food, water etc. which can be identified by colour change of the medium specific to the indicator used (1,2). Peptic digest of animal tissue provides necessary nitrogen source. Lactose serves as fermentable carbohydrate source. Sodium chloride maintains osmotic balance of the cells. The selective action of this medium is attributed to bile salts, which are inhibitory to most species of gram-positive bacteria. Gram-negative bacteria usually grow well on the medium and are differentiated by their ability to ferment lactose. The colour change of the medium shown by lactose fermentors is due to production of acid from lactose and a subsequent colour change of the dye when the pH of medium falls below 6.8. Lactose non-fermenting strains, such as Shigella and Salmonella do not alter the appearance of the medium. Due to the presence of bromocresol purple in the medium, Escherichia coli changes the colour of the medium to yellow due to lactose fermentation and colourless to slight pink in case of nonfermenters.

MEDIA COMPOSITION

Item	Formula per liter of medium
- Peptone	10
- Bile salt	4
- Sodium chloride	5
- Lactose	30
- Bromocresol purple	0.12

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.

S56: dispose of this material and its container at hazardous or special waste collection point.

S57: use appropriate container to avoid environmental Contamination.

S61: avoid release in environment.

For further information, refer to the MacConkey broth material safety data sheet.

STORAGE AND STABILITY

BioScien MacConkey broth dehydrated media are stable until expiration date stated on label when properly stored 10-30°C. The prepared medium should be stored at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Final pH 7.4 ± 0.2 at 25°C

MEDIA PREPARATION

1. Suspend 49.12 grams in 1000 ml distilled water.
2. Adjust pH to 7.4 ± 0.2 at 25°C
3. Heat to boiling to dissolve the medium completely.
4. Distribute into tubes with inverted Durham tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Deterioration

The color of **BioScien** MacConkey broth is Cream to yellow homogeneous free flowing powder. If there are any physical changes, discard the medium.

The hydrated medium is Purple coloured clear solution without any precipitate, media should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), and contaminations.

SPECIMEN COLLECTION AND PRESERVATION

Food samples; Water and sewage samples

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups
- Sterile tubes
- Sterile loops
- Incubator

PERFORMANCE CHARACTERISTICS

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

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

Test Organisms	Growth
<i>Escherichia coli</i> ATCC 25922	Good - Luxuriant
<i>Enterobacter aerogenes</i> ATCC 13048	Good - Luxuriant
<i>Salmonella Typhimurium</i> ATCC 14028	Good - Luxuriant
<i>Staphylococcus aureus</i> ATCC 25923	Good - Luxuriant

SYMBOLS IN PRODUCT LABELLING		
IVD	For in-vitro diagnostic use	 Number of <n> test in the pack
LOT	Batch Code/Lot number	 Caution
REF	Catalogue Number	 Do not use if package is damaged
	Temperature Limitation	 Consult Instruction for use
	Expiration Date	
	Manufactured by	

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact **BioScien** technical support.

REFERENCES

1. Tanner F. W., 1944, "The Microbiology of Foods", 2nd Ed., Garrard Press, Illinois, P. 1127.
2. Beerens H., 1958, DSIR, Proc. 2nd Internat. Sym. Food Microbiol., 1957, HMSO, London, P. 235.
3. Mossel D. A. A., Golstein Brouwers G. W. M. V. and de Bruin A. S., 1959, J. Path. Bacteriol., 78:290.
4. Attenborough J. and Scarr M., 1957, J. Appl. Bacteriol., 20: 460.