

TECHNICAL DATA SHEET

MACCONKEY BROTH PURPLE

DETECTION OF *ESCHERICHIA COLI*

1 INTENDED USE

MacConkey Broth Purple complies with the formula described in the European Pharmacopoeia for the detection of *Escherichia coli* in non-sterile products.

The media may be also used as a presumptive medium for the detection of coliform bacteria in water, milk, and seafood (oysters).

2 HISTORY

MacConkey Broth Purple is a modification of the formula originally described by MacConkey in 1901, which contained sodium taurocholate as inhibitor and litmus as an indicator. In 1905, MacConkey suggested the use of neutral red instead of litmus. Childs and Allen then showed the inhibitory effect of neutral red and replaced it by bromocresol purple, which was less inhibitory.

3 PRINCIPLES

Lactose fermentation by coliform bacteria results in the acidification of the medium, which makes the pH indicator (bromocresol purple) turn yellow.

Purified bile inhibits the growth of Gram-positive bacteria.

4 TYPICAL COMPOSITION

The composition can be adjusted in order to obtain optimal performance.

For 1 liter of media :

- Pancreatic hydrolystate of gelatin	20,00 g
- Bacteriological ox bile	5,00 g
- Lactose	10,00 g
- Bromocresol purple	0,01 g

pH of the ready-to-use media at 25 °C : 7,3 ± 0,2.

5 PREPARATION

- Dissolve 35,0 g of dehydrated media (BK107) in 1 liter of distilled or demineralized water.
- Stirring with constant agitation until complete dissolution.
- Dispense into tubes or vials, at 100 mL per container.
- Sterilize in an autoclave at 121 °C for 15 minutes.
- Cool to room temperature.

✓ **Reconstitution :**
35,0 g/L

✓ **Sterilization :**
15 min at 121 °C

6 INSTRUCTIONS FOR USE

Detection of *Escherichia coli* (Pharmacopeia)

- Transfer 1 mL of the primary enrichment into dans 100 mL of media prepared as above.
- Incubate at 42-44 °C for 24 to 48 hours.

✓ **Inoculation:**
1 mL

✓ **Incubation:**
24 to 48 h at 42-44 °C

7 RESULTS

Re-inoculate onto MacConkey agar (BK050, BM180) a loop of the MacConkey broth that demonstrates turbidity.

8 QUALITY CONTROL

Dehydrated media : greenish-beige powder, free-flowing and homogeneous.

Prepared media : violet solution, limpid.

Typical culture response after incubation at 42-44 °C

Microorganisms		Growth
(1) <i>Escherichia coli</i>	WDCM 00012	Good
(2) <i>Staphylococcus aureus</i>	WDCM 00032	Inhibited, score 0

(1) Inoculum <10² microorganisms, after incubation of 24h maximum

(2) Inoculum >10² microorganisms, after incubation of 48h minimum

9 STORAGE / SHELF LIFE

Dehydrated media : 2-30 °C.

The expiration dates are indicated on the labels.

Prepared media in tubes or vials (*) : 180 days at 2-8 °C, shielded from light.

(*) Benchmark value determined under standard preparation conditions, following manufacturer's instructions.

10 PACKAGING

Dehydrated media :

500 g bottle..... BK107HA

11 BIBLIOGRAPHY

McConkey, A. and Hill, C.A1901. Bile salt broth. Thompson-Yates Laboratories Report VI/1.

McConkey, A.. 1905. Lactose fermenting bacteria in feces Journal of Hygiene, **5** : 333-379.

McConkey, A...1908. Bile salt media and their advantages in some bacteriological examinations. Journal of Hygiene, **8** : 322-334.

European Pharmacopoeia. Chapter 2.6.13. Microbiological examination of non-sterile products: test for specified microorganisms.

12 ADDITIONAL INFORMATION

The information provided on the labels take precedence over the formulations or instructions described in this document and are susceptible to modification at any time, without warning.

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