

## Specification

Liquid medium, for the detection and enumeration of coliforms, according to the Pharmacopeial Harmonised Method.

## Presentation

	Packaging Details	Shelf Life	Storage
10 Prepared bottle Bottle 125 ml with: 100 ± 3 ml	1 box with 10 bottles 125 ml. Injectable cap: Plastic screw inner cap. The use of syringes needles with a diameter greater than 0.8 mm is not recommended.	16 months	8-25 °C

## Composition

Composition (g/l):	
Gelatin Peptone.....	20.00
Lactose.....	10.00
Ox Bile dried.....	5.00
Bromcresol purple.....	0.01

## Description /Technique

### Description

MacConkey media is a well known popular enrichment media for coliform bacteria. This MacConkey Broth is a modification of the classic medium, where neutral red is replaced by a less aggressive indicator (Bromcresol purple), according to the European Pharmacopoeia. At the beginning of the last century, MacConkey made the original formulation and included ox bile as an inhibitor of Gram positive bacteria and litmus as the indicator of acid production from lactose sugar. More recently the litmus has been substituted by a neutral red indicator making interpretations easier and more precise. Advancements in the knowledge of bacterial physiology has allowed adaptation of this media facilitating coliform detection.

### Technique

The MacConkey Broth is used for the enumeration of coliforms by the MPN technique, selecting the positive tubes that show turbidity, a colour change to yellow and gas production. Confirmation of the presence of coliform should be 42-44 °C. The turning of the medium to yellow in the presence of *E. coli*, may be delayed 24h to 48h depending on the volume and concentration of inoculum.

Each laboratory must evaluate the results according to their specifications.

## Quality control

### Physical/Chemical control

Color : Violet                      pH: 7.3 ± 0.2 at 25°C

### Microbiological control

Inoculate with 10-100 CFU according to harmonized Pharmacopoeia or with 100-1000 CFU for selectivity.

According to USP & European Pharmacopoeia

Analytical methodology according to ISO 11133:2014/A1:2018; A2:2020.

Aerobiosis. Incubation at 42-44 °C. Reading after 24-48 hours. *S. typhimurium* 30-35°C

### Microorganism

*Escherichia coli* ATCC® 8739, WDCM 00012  
*Salmonella typhimurium* ATCC® 14028, WDCM 00031  
*Staphylococcus aureus* ATCC® 6538, WDCM 00032  
*Escherichia coli* ATCC® 25922, WDCM 00013

### Growth

Good - Yellow medium -Gas (+)  
 Good Violet medium Gas -  
 Inhibited  
 Good - Yellow medium -Gas (+)

### Sterility Control

Incubation 48 h at 30-35 °C and 48 h at 20-25 °C: NO GROWTH.  
 Check at 7 days after incubation in same conditions.

**Reference:** 300674ZA      **Technical Data Sheet**

**Product:** **MacConkey Broth - 100 ml**



## Bibliography

- ATLAS, R.M., L.C. PARKS (1993) Handbook of Microbiological Media. CRC Press, Inc. London.
- EUROPEAN PHARMACOPOEIA 11.0 (2023) 11th ed. § 2.6.13. Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. EDQM. Council of Europe. Strasbourg.
- MacCONKEY, A.T. (1905) Lactose-Fermenting Bacteria in Faeces. J. Hyg 5:333.
- MacCONKEY, A.T. (1905) Lactose-fermenting bacteria in faeces. J. Hyg 5:333.
- USP 33 - NF 28 (2011) <62> Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. USP Corp. Inc. Rockville. MD. USA.