

MacConkey Agar N° 2

Cat. 1035

For the identification of enterococci in the presence of coliforms and non-fermenting organisms in water, foods and clinical samples

Practical information

Applications	Categories
Detection	Coliforms

Industry: Water / Clinical / Food



Principles and uses

MacConkey Agar N° 2 is a slightly selective and differential medium especially useful for the recognition of enterococci in the presence of coliforms and non-lactose fermenters from water, sewage, food and clinical samples.

Bacteriological peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Lactose is the fermentable carbohydrate energy source, causing a pH drop and a color change in the pH indicator (Neutral red), and bile precipitation. Bile salts N° 2 and crystal violet are the selective agents, inhibiting Gram-positive, bile-tolerant microorganisms such as staphylococci and non-fecal streptococci. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Bacteriological agar is the solidifying agent.

The presence of intestinal enterococci, is an indicator for faecal contamination, especially when the contamination occurred a long before and the less resistant coliform bacteria, including *Escherichia coli*, may already be dead when the analysis is carried out.

Formula in g/L

Bacteriological agar	13,5	Bacteriological peptone	20
Bile salts	1,5	Crystal violet	0,001
Lactose	10	Neutral red	0,05
Sodium chloride	5		

Preparation

Suspend 50 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 °C for 15 minutes. Cool to 45-50 °C, mix well and dispense into plates.

Instructions for use

- » For clinical diagnosis, the type of samples are urine and feces.
 - Spread a plate with loop or swab
 - Incubate in aerobic conditions at 35±2 °C for 18-24 hours.
 - Reading and interpretation of results.
- » For other uses not covered by the CE marking:
 - Inoculate and incubate at 35±2 °C for 18-24 hours.
 - Enterococci grow as intensely red, small colonies surrounded by a zone of pale red precipitate.
 - Non-lactose fermenting bacteria form colorless colonies.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige-pink	Red-violet	7,2±0,2

Microbiological test

Incubation conditions: (35±2 °C / 18-24 h).

Microorganisms	Specification	Characteristic reaction
Salmonella enteritidis ATCC 13076	Good growth	Colony color: Colorless
Escherichia coli ATCC 25922	Good growth	Colony color: Pink-red (bile precipitate)
Staphylococcus aureus ATCC 25923	Inhibited growth	
Enterococcus faecalis ATCC 29212	Good growth	Colony color: Red

Storage

Temp. Min.: 2 °C
Temp. Max.: 25 °C

Bibliography

Mac Geachie J. and Kennedy A.C. J. Clin. Path. 16. 32-38, 1963