

MACCONKEY AGAR WITH CRYSTAL VIOLET

INSTRUCTION FOR USE READY-TO-USE PLATED MEDIA

For professional use

Intended use: MacConkey Agar is used for the selective isolation and differentiation of Gram-negative enteric bacilli.

Ref .	Type of medium:	Packaging:
201020	ready-to-use medium-plate	2x10 pcs (90 mm)

1. Principle: isolation and differentiation of Gram-negative enteric bacilli. Enzymatic digest of gelatin, enzymatic digest of casein, and enzymatic digest of animal tissue are the nitrogen and vitamin sources in MacConkey Agar. Lactose is the fermentable carbohydrate. During lactose fermentation a local pH drop around the colony causes a colour change in the pH indicator, neutral red, and bile precipitation. Bile salts mixture and crystal violet are the selective agents, inhibiting Gram-positive cocci and allowing Gram-negative organisms to grow. Sodium chloride maintains the osmotic environment. Agar is the solidifying agent.

2. Formula/Liter:

Enzymatic digest of gelatin	17.0 g
Enzymatic digest of casein	1.5 g
Enzymatic digest of animal tissue	1.5 g
Lactose	10.0 g
Bile salts mixture	1.5 g
Sodium chloride	5.0 g
Neutral red	0.03 g
Crystal violet	0.001 g
Agar	13.5 g

3. pH: 7.1 ± 0.2 at 25°C.

4. Appearance:

Prepared Appearance: prepared medium is clear and violet.

5. Sample: all samples in which a Gram-negative enteric bacilli are expected.

6. Test procedure: if the agar plate has been refrigerated, allow to warm to room temperature before inoculation. Streak the specimen for isolation onto the surface of the medium. If the specimen is cultured from a swab, roll the swab gently over a small area of the surface at the edge, then streak from this area with a loop. Incubate plates aerobically at $35 \pm 2^\circ\text{C}$ for 18-24 hours in an inverted position.

7. Results: after incubation time observe growth of characteristic microorganisms. Lactose-fermenting organisms grow as pink colonies with or without a zone of precipitated bile. Non-lactose fermenting organisms grow as colourless or clear colonies. Identification of the microorganism should be confirmed by biochemical test.

8. Quality control: perform quality control testing for both negative and positive reaction by inoculating a representative sample of plates with pure cultures of stable control organisms that produce known, desired reactions. Graso uses following strains for performing quality control. Please note that other strains can be used in accordance with applicable local, state and laboratory's standard Quality Control.

Microorganism:	Appearance of colony:
<i>Escherichia coli</i> ATCC 25922	pink
<i>Pseudomonas aeruginosa</i> ATCC 10145	irregular, colourless to pink
<i>Proteus mirabilis</i> ATCC 12453	colourless
<i>Salmonella typhimurium</i> ATCC 14028	colourless
<i>Enterococcus faecalis</i> ATCC 29212	no growth

9. Precautions: some strains may be encountered that grow poorly or fail to grow on this medium. Although MacConkey Agar is a selective medium primarily for Gram-negative enteric bacilli, biochemical and serological testing using pure cultures are recommended for complete identification. Incubation of MacConkey Agar plates under increased CO₂ has been reported to reduce growth and recovery of a number of strains of Gram-negative bacilli with appropriate internal procedures and in accordance with local legislations.

10. Disposal of waste: after use, all plates and any other contaminated materials must be sterilized or disposed of in line with appropriate internal procedures and in accordance with local legislations. Plates can be destroyed by autoclaving at 121°C for at least 20 minutes.

11. Storage: on receipt, store plates at 2-12°C away from direct sun light in an inverted position. Do not overload a refrigerator with excessive amounts of plates to avoid water condensation on the lids during storage. Plates must not come into direct contact with the inner walls of refrigerator, as the media may freeze, invalidating the tests. Prepared plates, stored in their original sleeve wrapping at 2-12°C until just prior to use, may be inoculated up to the expiration date and incubated for recommended incubation times. Plates from opened stacks of 10 plates should be used for two weeks when stored in a clean area at 2 to 12° C. Do not use plates if they show evidence of microbial contamination, discoloration, drying, cracking or others signs of deterioration. Allow the medium to warm to the room temperature before inoculation.

All microbiological media containing dyes or light-sensitive components should be protected from light and stored in the dark.

Note that shelf life of the growth media changes after the addition of supplements. Complete media containing protein supplement tend to degrade faster than basal media alone.

12. Shelf life: 3 months.

13. Required supplements not supplied together with medium base: not applicable.

14. References: available on request.



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