

MAC CONKEY AGAR N°3

IVD in Class A, EU Reg. 2017/746

 For in vitro diagnostic use **IVD**

Selective and differential medium for detection of Enterobacteriaceae from clinical samples and other materials, according to USP/EP/JP.

DESCRIPTION

MAC CONKEY AGAR N°3 is a slightly selective and differential medium for the detection of coliform organisms and enteric pathogens. It meets United States Pharmacopeia (USP) performance specifications.

PRINCIPLE

MAC CONKEY AGAR N°3 is a selective and differential medium. It is only slightly selective since the concentration of bile salts, which inhibit gram-positive microorganisms, is low in comparison with other enteric plating media. Crystal violet also is included in the medium to inhibit the growth of gram-positive bacteria, especially enterococci and staphylococci. Differentiation of enteric microorganisms is achieved by the combination of lactose and the neutral red indicator. Colorless or pink to red colonies are produced depending upon the ability of the isolate to ferment the carbohydrate.

| COMPOSITION | g/L |
|-----------------|-------|
| Peptones | 20.0 |
| Lactose | 10.0 |
| Bile Salts no.3 | 1.5 |
| Sodium chloride | 5.0 |
| Neutral red | 0.03 |
| Crystal violet | 0.001 |
| Agar | 15.0 |

Final pH 7,1 ± 0,2 at 25°C

WARNING AND PRECAUTIONS

For in vitro diagnostic use.

Observe the precautions normally taken when handling laboratory reagents.

Dehydrated medium: HIGHLY HYGROSCOPIC. During the handling, wear dust protection mask. Avoid the eye contact. Do not use beyond the expiration date or if the product shows signs of deterioration, an altered color or has compacted.

Prepared Medium: The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous.

Safety Data Sheet is available on request for professional users.

All waste must be disposed of according to local directives.

STORAGE AND STABILITY

| | |
|---------------------------|---------|
| Dehydrated medium: | 10-30°C |
| Prepared medium: | 10-25°C |

MAC CONKEY AGAR N°3 is stable until the expiration date indicated on the label under the recommended storage conditions.

PREPARATION

Dehydrated medium: Suspend 51.5 g of the powder in 1 liter of distilled or deionized water. Mix thoroughly. Heat with frequent agitation and boil for 1 minute to completely dissolve the powder. Autoclave at 121°C for 15 minutes.

Prepared medium (bottles): Melt the content of the bottle in a water bath at 100°C (loosing the cap partially removed) until completely dissolved. Then screw the cap and check the homogeneity of the dissolved medium, if it is the case turning the bottle upside down. Cool at 45-50°C, mix well avoiding foam formation and aseptically distribute into Petri dishes.

Prepared medium (plates): ready to use.

PROCEDURE

Use standard procedures to obtain isolated colonies from specimens. A nonselective medium should also be streaked to increase the chance of recovery when the population of gram-negative organisms is low and to provide an indication of other organisms present in the specimen. Incubate plates, protected from light, at 35 ± 2°C (do not use CO₂-enriched atmosphere with MacConkey Agar N°3) or other appropriate temperature for 18-24 hours.

RESULTS

After incubation, examine the medium macroscopically for typical colonies. Colonies of lactose-fermenting bacteria appear pink to rose-red in color and may be surrounded by a zone of bile precipitation, while lactose-nonfermenting colonies are colorless.

Additional biochemical or serological tests are necessary for definitive identification.

QUALITY CONTROL

Dehydrated medium: free-flowing, homogeneous, beige-pink.

Prepared medium: slightly opalescent, pinkish-red.

Typical response after incubation at 35±2°C for 48 hours:

| MICROORGANISM | GROWTH/COLONIES |
|--|---|
| <i>E. coli</i> ATCC 25922 | Good/Pink colonies with bile ppt |
| <i>Salmonella enterica</i> subsp. enterica serotype Typhimurium ATCC 14028 | Good/Colorless |
| <i>Enterococcus faecalis</i> ATCC 29212 | Partial to total inhibition |
| <i>Proteus mirabilis</i> ATCC 12453 | Good/Colorless |
| <i>Pseudomonas aeruginosa</i> ATCC 10145 | Good/Colorless to blue to green to pink |

REFERENCES

- European Pharmacopoeia 6.5 (2009). 2.6.13 Microbiological examination of non-sterile products: Test for specified microorganisms.
- United States Pharmacopoeia 32 NF 27 (2009). <62> Microbiological examination of non-sterile products: Test for specified microorganisms.
- Japanese Pharmacopoeia 4.05 (2008). Microbiological examination of non-sterile products: Test for specified microorganisms.
- Murray, Baron, Jorgensen, Landry and Pfaller ed. (2007) Manual of clinical microbiology, 9th ed. American Society for Microbiology, Washington, D.C.
- MacConkey A. (1905) Lactose-fermenting bacteria in faeces. J. Hygiene 8:333-379.
- Trepeta and Edberg. 1984. J. Clin. Microbiol. 19:172.
- Killian and Bulow. 1976. Acta Pathol. Microbiol. Scand. Sec. B. 84:245.
- Feng and Hartman. 1982. Appl. Environ. Microbiol. 43:1320.
- Robison. 1984. Appl. Environ. Microbiol. 48:285.

PRESENTATION

Packaging
REF.

Dehydrated medium:

MAC CONKEY AGAR N°3
500 g (9.7 L)
10212

Prepared medium:

MAC CONKEY AGAR N°3
6 x 100 mL bottles
63321
6 x 200 mL bottles
63221
12 x 200 mL bottles
63221/12
20 pcs (90 mm ready-to-use plates)
1654075/20

SYMBOLS


Read the instructions

Biological hazard

CE Mark (product complies with the requirements of Regulation (EU) 746/2017)

Temperature limitation

Use by

For in vitro diagnostic use

Manufacturer