

M 7 Hr FC Agar Plate

MP635

Intended Use:

Recommended for examination of water and waste water.

Composition**

Ingredients	Gms / Litre
Biopeptone	5.000
Yeast extract	3.000
Lactose	10.000
D-Mannitol	5.000
Sodium chloride	7.500
Sodium lauryl sulphate (SLS)	0.200
Sodium deoxycholate	0.100
Bromo cresol purple	0.350
Phenol red	0.300
Agar	15.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

Principle And Interpretation

M7 Hr FC Agar is a modified method of Van Donsel et al (1) and Reasoner et al (2), which is recommended by APHA (3) for the examination of water and wastewater for the presence of faecal coliforms by the membrane filter technique. This medium has an advantage over other media to yield results in 7 hours that are generally comparable to those obtained by the standard coliform method. Thus this medium is accepted for assessment of the sanitary quality of water during emergencies involving water treatment plant failure or line breaks in a distribution network. It is reliable and has sensitivity levels equal to those of the standard tests routinely used.

Biopeptone and yeast extract provides nitrogeous and carbonaceous compounds, long chain amino acid, vitamins and other essential nutrients to a wide variety of organisms. Lactose and mannitol are energy sources and sodium chloride maintains osmotic equilibrium of the medium. Sodium lauryl sulphate and sodium deoxycholate help to restrict the gram-positive and gram-negative bacterial flora present in water. Bromocresol purple and phenol red help as indicators in the detection of organisms.

Type of specimen

Water samples

Specimen Collection and Handling:

After filtering a suitable or desired volume of water, the membrane is placed on the surface of plate and then incubated at 41.5°C for 7 hours. Faecal coliform form yellow colonies, indicating lactose fermentation. After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's requirement.
3. Further serological and biochemical testing is required for complete identification.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Sterile M 7 Hr FC Agar in 90 mm disposable plates with smooth surface & absence of black particles/ cracks/ bubbles.

Colour

Dark pinkish purple coloured medium

Quantity of medium

25 ml of medium in 90 mm disposable plates.

Sterility Check

Passes release criteria

pH

7.10-7.50

Cultural Response

Cultural characteristics observed after an incubation at 41.5°C for 7-18 hours .

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	luxuriant	≥50%	yellow
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	≥10 ⁴	inhibited	0%	
<i>Enterococcus faecalis</i> ATCC 29212 (00087*)	≥10 ⁴	inhibited	0%	

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

On receipt store between 20-30°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

Reference

1. Van Donsel D. J., Twedt R. M. and Geldrich E. E., 1969, Bacteriol.Proc. Abs. No. G46; p. 25.
2. Reasoner, D.J., Blannon J. C. and Geldrich E. B., 1979, Appl. Environ. Microbiol., 38:229.
3. Eaton A. D., Clesceri L. S., Rice E. W. and Greenberg A. W., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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Disclaimer :

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