



Ready Prepared Media

Technical Information

MiCrome E.coli Agar Plate

Product Code: PM 2295

Application: Recommended for the detection and enumeration of *Escherichia coli* in foods without further confirmation on membrane filter or by indole reagent. It can also be used for detection of *E. coli* from clinical samples.

Composition**

Ingredients	Gms / Litre
Tryptone	14.000
Peptone, special	5.000
Bile salts mixture	1.500
Disodium hydrogen phosphate	1.000
Sodium dihydrogen phosphate	0.600
Sodium chloride	2.400
X-Glucuronide	0.075
Agar	12.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

MiCrome E.coli Agar Plate is based on Tryptone Bile Agar to detect *Escherichia coli* in foods (1), where recovery of *E.coli* is faster, more reliable and accurate. Most of the *E.coli* strains can be differentiated from other coliforms by the presence of enzyme glucuronidase, which is highly specific for *E.coli* (2). The chromogenic agent X-glucuronide used in this medium helps to detect glucuronidase activity of *E.coli*. *E.coli* cells absorb X-glucuronide and the intracellular glucuronidase enzyme splits the bond between the chromophore and the glucuronide. The released chromophore gives bluish green colouration to the *E.coli* colonies. This medium is recommended for isolation of *E.coli* from water, food and clinical samples.

Tryptone and peptone special provides carbon, nitrogen compounds, long chain amino acids, vitamins and other essential growth nutrients to the organisms. Bile salts mixture inhibits gram-positive organisms. Sodium chloride and phosphates maintain osmotic balance and buffering action respectively.

The surface of the plated medium is dried before use. Dilute food samples 1:5 or 1:10 with 0.1% (w/v) sterile Peptone Water (M028) and homogenize in a blender or a stomacher. Pipette 0.5 ml or 1.0 ml of the homogenized food sample onto the plate and spread with sterile glass spreader. Incubate the plates at 30°C for 4 hours and then at 44°C for 18 hours.

Type of specimen

Clinical samples - faeces, Water samples, Food samples

Specimen Collection and Handling

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (3).

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards(4). For clinical samples follow appropriate techniques for handling specimens as per established guidelines (5,6).

After use, contaminated materials must be sterilized by autoclaving before discarding.



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Warning and Precautions

In Vitro diagnostic Use only. For professional use only. Read the label before opening the pack. 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 clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. β -glucuronidase is present in 97% of *E.coli* strains, however few *E.coli* may be negative.
2. Certain species of *Salmonella* are β -glucuronidase positive.
3. Some species may show poor growth due to nutritional variations

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 .

Methodology

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

Quality Control

Appearance

Sterile MiCrome *E.coli* Agar in 90 mm disposable plates with smooth surface and absence of black particles/cracks/bubbles

Colour of medium

Light yellow coloured medium

Quantity of medium

25 ml of medium in 90 mm disposable plates.

pH

7.00-7.40

Sterility Check

Passes release criteria

Cultural Response

Cultural characteristics observed after an incubation at 44°C for 18-24 hours.

Organism	Growth	Inoculum(CFU)	Recovery	Colour of colony
Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)	inhibited	$\geq 10^3$	0%	
Escherichia coli ATCC25922 (00013*)	luxuriant	50-100	$\geq 50\%$	bluish green
Salmonella Enteritidis ATCC 13076 (00030*)	luxuriant	50-100	$\geq 50\%$	Colourless

(*) - Corresponding WDCM numbers



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Storage and Shelf Life

- On receipt store between 2-8°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 (5,6).

Further Reading

1. Anderson J.M. and Baird-Parker A.C., 1975, J.Appl. Bacteriol., 39:111.
2. Hansen W. and Yourassawsky E., 1984, J. Clin. Microbiol., 20:1177.
3. Salfinger Y., and Tortorello M.L. Fifth (Ed.),2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
4. Lipps WC, Braun-Howland EB, Baxter TE,eds. Standard methods for the Examination of Water and Wastewater, 24thed. Washington DC:APHA Press; 2023.
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
6. 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.

Disclaimer

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
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