



Ready Prepared Media

Technical Information

MiCrome EC O157 : H7 Selective Agar Plate

Product Code: PM 2575A

Application: Recommended for selective isolation and easy detection of *Escherichia coli* O157 : H7 from food samples

Composition**

Ingredients	Gms / Litre
Tryptone	5.000
Yeast extract	3.000
Sorbitol	7.000
Bile salts mixture	1.500
Sodium lauryl sulphate	0.100
Chromogenic mixture	0.250
Agar	15.000
MiCrome EC O157:H7 Selective Supplement (MS2187)	1 vial
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters .

Principle & Interpretation

Enterohaemorrhagic *E.coli* strains are also termed as verocytotoxin-producing *E.coli* (VTEC/ EHEC). Although many different serotypes of *Escherichia coli* are known to produce verocytotoxin (5) those of *Escherichia coli* and O157:H are so far the common types causing human infections. O157 VTEC strains have several unusual biochemical characters that are exploited in methods for their laboratory identification. They belong to the minority of *E.coli* that are β -glucuronidasenegative and do not ferment sorbitol or rhamnose within 24 hours. These can be isolated from faecal specimens by plating on media containing D-sorbitol instead of lactose.

MiCrome EC O157:H7 Agar is based on the formulation described by Rappaport and Henigh (5). The medium contains sorbitol as fermentable carbohydrate and chromogenic mixture instead of lactose and indicator dyes respectively.

The chromogenic substrate is specifically and selectively cleaved by *Escherichia coli* O157: H7 resulting in a dark purple to magenta coloured moiety. *E.coli* forms bluish green coloured colonies.

Tryptone and yeast extract provides carbonaceous and nitrogenous compounds, long chain amino acids, vitamins and growth nutrients. Sodium chloride maintains osmotic equilibrium. Addition of MiCrome EC O157:H7 Selective Supplement (MS2187) makes the medium selective (6). Potassium tellurite selectively inhibits *Aeromonas* and *Providencia* species. Novobiocin inhibits gram-positive bacteria. Sodium lauryl sulphate helps to inhibit the accompanying gram-positive flora.

Type of specimen

Food samples

Specimen Collection and Handling

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (4). After use, contaminated materials must be sterilized by autoclaving before discarding



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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. Due to variable nutritional requirements, some strains show poor growth on this medium.
2. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
3. 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 unique requirement.

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 EC O157 : H7 Selective Agar in 90 mm disposable plates.

Colour

Light amber coloured medium

Quantity

25 ml of medium in disposable plate

pH

6.60-7.00

Sterility Check

Passes release criteria

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.



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Organism	Inoculum(CFU)	Growth	Colour of Colony
<i>Escherichia coli</i> ATCC25922 (00013*)	50-100	non to poor	Bluish green
<i>Escherichia coli</i> O157:H7NCTC 12900	50-100	luxuriant	Dark purple magenta
<i>Klebsiella pneumonia</i> ATCC 13883 (00097*)	50-100	fair-good	Colourless mauve(muroid)
<i>Pseudomonas aeruginosa</i> ATCC 27853 (00025*)	50-100	fair-good	Colourless
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	$\geq 10^4$	inhibited	
<i>Bacillus spizizenii</i> subsp. <i>subtilis</i> ATCC 6633 (00003*)	$\geq 10^4$	inhibited	

(*) - Corresponding WDCM numbers

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 (1,2).

Further Reading

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
2. 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.
3. Rappaport F. and Henigh E., 1952, J. Clin. Pathol. 5:361.
4. Salfinger Y., and Tortorello M.L. 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
5. Smith and Scotland, 1988, J. Med. Microbiol., 26:77-85.
6. Zadik P. M., Cahpman P. A. and Siddons C. A., 1993, J. Med. Microbiol., 39, 155-158.

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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