Ready Prepared Media

Technical Information

MiCrome VRE Agar Plate

Product Code: PM 2925

Application: Recommended for selective isolation and differentiation of Vancomycin Resistant *Enterococcus faecalis* and *Enterococcus faecium* from clinical samples

Composition**

Ingredients	Gms / Litre
Peptone special	20.000
Chromogenic mixture	3.600
Sodium chloride	5.000
Arabinose	10.000
Phenol red	0.100
Agar	15.000
MiCrome VRE Agar Supplement (MS2277)	2 Vial
Vancomycin 4mgx2	8.000mg
Fluconazole 5mgx2	10.000mg
Final pH (at 25°C)	7.8±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Enterococci are the common habitants of the normal flora residing in the intestines of mammals (3). Vancomycin Resistant Enterococci are the group of Enterococci that have developed resistance towards many antibiotics particularly vancomycin. Enterococcal infections that result in human disease can be fatal, particularly those caused by strains of vancomycin-resistant enterococci (VRE) (4). Early detection of VRE is important to prevent the emergence of vancomycin resistant in *Enterococcus faecalis* .

VRE can be transmitted from person to person, especially in a hospital or chronic-care facility. Microscopic amounts of fecal material from an infected or colonized patient can contaminate the hospital environment and be a reason for the spread of infection. There are many traditional media for the detection of VRE which includes Vancomycin Resistant Enterococci Broth Base/ Agar or Bile Esculin Agar supplemented with vancomycin.

Peptone special in the medium supplies nitrogenous and carbonaceous compounds, long chain amino acids, vitamins and other necessary nutrients required for the growth of microorganisms. Sodium chloride maintains the osmotic balance. Phenol red is the pH indicator and arabinose is the fermentable carbohydrate *Enterococcus* species possess the enzyme β-glucosidase which cleaves the chromogenic substrate in the medium to produce blue coloured colonies. *Enterococcus faecium* ferments arabinose and cleaves the substrate thereby producing green colonies with yellow background. *Enterococcus faecalis* doesnot ferment arabinose thereby producing blue colonies due to cleavage of chromogenic substrate. The supplement added to the medium allows the selective isolation of Vancomycin Resistant Enterococci. This medium can be inoculated directly from screening swab, isolated colony prepared as a liquid suspension approximately equivalent to 0.5 McFarland turbidity.

Type of specimen

Clinical samples - Rectal swab, Stool sample

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Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (1,2).
After use, contaminated materials must be sterilized by autoclaving before discarding .

Warning and Precautions

In Vitro diagnostic use only. 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 clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Some intermediate strains may show poor growth due to nutritional variations and resistance to Vancomycin.
2. Slight colour variation may be observed depending upon the utilization of the substrate by the organism.
3. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
4. 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.
5. Further confirmation must be carried out by sensitivity testing.

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.

Directions

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

Quality Control

Appearance
Sterile MiCrome VRE Agar in 90mm disposable plate.

Colour of medium
Red coloured medium.

Quantity of medium
25 ml of medium in 90 mm plates.

pH
7.60 - 8.00

Sterility Check
Passes release criteria

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Growth	Inoculum (CFU)	Recovery	Colour of Colony
Enterococcus faecalis (VRE) ATCC 51299	Luxuriant	50-100	>=50%	Blue
Enterococcus faecium (VRE) ATCC 700221	Luxuriant	50-100	>=50%	Green with yellow background
Enterococcus faecalis ATCC 29212 (00087*)	Inhibited	>=10^3	0%	
Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)	Inhibited	>=10^3	0%	

Key : (*) 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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques(1,2) .

Further Readings

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. Mara D., Horan NJ: The Handbook of water, wastewater and microbiology, Amsterdam, The Netherlands, Academic Press;2003.
4. Mascini EM, Bonten MJ: Vancomycin- resistant enterococci: consequences for therapy and infection control. Clin Microbiol Infect.2005,11 (Suppl.4):43-56.

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
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
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- Do not use the products if it fails to meet specificatons for identity and performens parameters.