



Ready Prepared Media

## Technical Information

### Vancomycin Resistant Enterococci (VRE) Agar Plate

**Product Code: PM 2763**

**Application:** Recommended for selective isolation of vancomycin resistant Enterococci.

#### Composition\*\*

Ingredients	Gms / Litre
Tryptone	20.000
Yeast Extract	5.000
Sodium chloride	5.000
Sodium citrate	1.000
Aesculin	1.000
Ferric ammonium citrate	0.500
Sodium azide	0.150
Agar	10.000
<b>Vancomycin supplement (MS2261)</b>	<b>2.0 vials</b>
Vancomycin (3 mg x 2)	6.000mg
<b>Meropenem supplement (MS2262)</b>	<b>1.0 vials</b>
Meropenem (1 mg x 1)	1.000mg
Final pH ( at 25°C)	7.0±0.2

\*\*Formula adjusted, standardized to suit performance parameters

## Principle & Interpretation

Enterococci usually occur as the normal flora in the intestines of mammals. The presence of enterococci is an indication of faecal contamination (4). The increasing development of multiple resistance towards antibiotics particularly vancomycin by enterococci is a serious threat to the world (5). Vancomycin-resistant *Enterococcus* (VRE) is a group of bacterial species of the genus *Enterococcus* that are resistant to the antibiotic vancomycin. Vancomycin resistant Enterococci Agar is formulated as per the recommendations of Centre for Disease Control and Prevention (CDC) for the selective isolation of vancomycin resistant enterococci (1). Tryptone and yeast extract provides nitrogenous, carbonaceous compounds and other essential growth nutrients to the medium. Sodium chloride maintains the osmotic balance. Enterococci species hydrolyze esculin to glucose and esculetin. The latter combines with ferric ions offering ferric ammonium citrate to form a dark brown or black complex visualized as a zone of black precipitate around the colonies. Sodium azide inhibits most of the accompanying microflora. Vancomycin Supplement (MS2261) helps in the selective isolation of vancomycin resistant enterococci from other enterococci. Meropenem Supplement (MS2262) added to the medium helps to suppress the contaminating flora especially gram-negative bacteria.

## Type of specimen

Clinical samples - Rectal swab, Stool sample



Ready Prepared Media

## Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5).

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/eyeprotection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard 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. 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.
4. 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.

## Methodology

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

## Quality Control

### Appearance

Sterile Vancomycin Resistant Enterococci Agar in 90mm disposable plate.

### Colour

Light amber coloured medium

### Quantity of medium

25 ml of medium in 90 mm plate

### Reaction

6.80 - 7.20

### Sterility test

Passes release criteria

### Cultural Response

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



Ready Prepared Media

Organism	Inoculum(CFU)	Growth	Recovery	Esculin Hydrolysis
Enterococcus faecalis ATCC 29212(00187*)	$\geq 10^4$	Inhibited	0%	Negative reaction
Enterococcus faecalis NCTC 12201	50-100	Luxuriant	$\geq 50\%$	Positive reaction, blackening of medium
Escherichia coli ATCC 25922 (00013*)	$\geq 10^4$	Inhibited	0%	
Salmonella Typhimurium ATCC 14028 (00031*)	$\geq 10^4$	Inhibited	0%	
Pseudomonas aeruginosa ATCC 27853 (00025*)	$\geq 10^4$	Inhibited	0%	
Enterococcus faecium NCTC 12202	50-100	Luxuriant	$\geq 50\%$	Positive reaction, blackening of medium
Enterococcus faecalis ATCC 51299	50-100	Luxuriant	$\geq 50\%$	Positive reaction, blackening of medium

(\*) - 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 (2,3).

## Further Reading

- CDC Preventing the spread of vancomycin resistance: a report from the Hospital Infection Control Practices Advisory Committee(1994). Fed Regist. May17.
- Isenberg, H.D. Clinical Microbiology Procedures Handbook 2<sup>nd</sup> Edition.
- 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.
- Mara D., Horan NJ : The Handbook of water, wastewater and microbiology, Amsterdam, The Netherlands, Academic Press ; 2003.
- Mascini EM, Bonten MJ : Vancomycin- resistant enterococci : consequences for therapy and infection control. Clin. Microbiol Infect. 2005, 11 (Suppl.4) :43-56.



Ready Prepared Media

## 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.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.
- Do not use the products if it fails to meet specifications for identity and performance parameters.