Vancomycin Resistant Enterococci (VRE) Agar Base

M1763

Vancomycin Resistant Enterococci (VRE) Agar Base is recommended for the 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
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 42.65 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add rehydrated contents of 2 vials of Vancomycin Supplement (FD261) and 1 vial of Meropenem Supplement (FD262). Mix well and pour into sterile Petri plates.

Principle And Interpretation

Enterococci usually occur as the normal flora in the intestines of mammals. The presence of enterococci is an indication of faecal contamination (1). The increasing development of multiple resistance towards antibiotics particularly vancomycin by enterococci is a serious threat to the world (2). Vancomycin-resistant *Enterococcus* (VRE) is the name given to a group of bacterial species of the genus *Enterococcus* that are resistant to the antibiotic vancomycin . Vancomycin resistanct Enterococci Agar is formulated as per the recommendations of Centre for Disease Control and Prevention (CDC) for the selective isolation of vancomycin resistant enterococci (3). Tryptone and yeast extract provides nitrogeneous, 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 of 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 (FD261) helps in the selective isolation of vancomycin resistant enterococci from other enterocci. Meropenem Supplement (FD262) added to the medium helps to suppress the contaminating flora especially gram-negative bacteria.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.0% Agar gel

Colour and Clarity of prepared medium
Light amber coloured, clear to slightly opalescent gel forms in Petri plates.

Reaction
Reaction of 4.27% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH
6.80-7.20

Cultural Response

M1763: Cultural characteristics observed with added Vancomycin Supplement (FD261) and Meropenem Supplement (FD262), after an incubation at 35 - 37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Esculin Hydrolysis
Cultural Response				
Enterococcus faecalis ATCC 29212	>=10^3	inhibited	0%	negative reaction
Enterococcus faecalis NCTC 12201	50-100	luxuriant	>=50%	positive reaction, blackening of medium
Escherichia coli ATCC 25922	>=10^3	inhibited	0%	
Salmonella Typhimurium ATCC 14028	>=10^3	inhibited	0%	
Pseudomonas aeruginosa ATCC 27853	>=10^3	inhibited	0%	
Enterococcus faecium NCTC 12202	50-100	luxuriant	>=50%	positive reaction, blackening of medium
Enterococcus faecalis ATCC 51299	50-100	luxuriant	>=50%	positive reaction, blackening of medium

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

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

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