HiCrome VRE Agar Base, Modified

M1925

HiCrome VRE Agar Base, Modified is recommended for selective isolation and differentiation of Vancomycin Resistant *Enterococcus faecalis* and *Enterococcus faecium* from clinical specimens.

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
Final pH (at 25°C)	7.80±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 53.70 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45-50°C and aseptically add the rehydrated contents of two vials of HiCrome VRE Agar Supplement (FD277). Mix well and pour into sterile Petri plates.

Principle And Interpretation

Enterococci are the common habitants of the normal flora residing in the intestines of mammals (1). 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) (2). 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 the necessary nutrients and vitamins 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* does not ferment aarabinose 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.

Quality Control

Appearance

Light yellow to pink homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Orange to red coloured opaque gel forms in Petri plates.

Reaction

Reaction of 5.37% w/v aqueous solution at 25°C. pH : 7.80 ±0.2

Cultural Response

M1925: Cultural characteristics observed with added HiCrome VRE Agar Supplement (FD277) ,after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Enterococcus faecalis (VRE) ATCC 51299	50-100	luxuriant	>=50%	blue
Enterococcus faecium(VRE) ATCC 700221	50-100	luxuriant	>=50%	green w/yellow background
Enterococcus faecalis ATCC 29212	>=10^3	inhibited	0%	-
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	0%	-

Storage and Shelf Life

Store dehydrated powder and prepared medium at 2-8°C in tightly capped container. 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

Revision : 0 / 2013

CE