HiCrome KPC Agar Base

M1831

HiCrome KPC Agar Base is recommended for the detection of gram negative bacteria with a reduced susceptibility to a carbapenem agents.

Composition**

Ingredients	Gms / Litre
Peptone special	15.000
Chromogenic mixture	3.000
Agar	15.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 16.5 grams in 500 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. Aseptically add rehydrated contents of 1 vial of HiCrome KPC Selective Supplement (FD279). Mix well and pour into sterile Petri plates.

Principle And Interpretation

HiCrome KPC Agar Base is a chromogenic medium designed for the detection and differentiation of KPC producing gram negative bacterial species without selective pre-enrichment. Carbapenems are the last line of defense against invasive or serious infections and are used to treat these life threatening infections that are caused by gram negative, drug resistant pathogens (1). Production of carbapenemase enzyme results in resistance to penicillins, cephalosporins (i.e. cefepime, ceftriaxone), carbapenems (i.e. meropenem, ertapenem) and aztreonam there by making these pathogens multi drug resistant.

Most carbapenemase producing bacteria are included in the family *Enterobacteriaceae* , and are thus termed as carbapenem resistant *Enterobacteriaceae* (CRE). Besides the *Enterobacteriaceae* family, rare strains of *pseudomonas aeruginosa* and *Acinetobacter baumannii* have also be found to produce catrbapenemase (1,2,3).

Peptone special provides nitrogenous compounds and other essential growth nutrients. This medium can be made selective by supplementation with antibiotics for detecting microorganisms associated with hospital borne infections. Selective supplements have been added to inhibit the growth of yeast, gram positive organisms and gram negative organisms that do not produce carbapenemase.

This medium is intended to be used as a screening medium. Isolates should be tested further for carbapenem susceptibility following CLSI guidelines. Indole test may be perform for the confirmation of carbapenem resistant *E. coli* because some rare strains of C. freundii may produce small pink to magenta coloured colonies similar to *E. coli* . Carbapenem resistant strains of *Klebsiella* , *Enterobacter* and *Serratia* species produce bluish green colonies. *Acinetobacter* and *Salmonella* species produce smooth, colourless colonies. *Pseudomonas* species produce colourless to light yellowish green, translucent colonies with wrinkled edges. Further biochemical tests may be needed for complete identification.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

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

Reaction
Reaction of 3.3% w/v aqueous solution at 25°C. pH : 7.0±0.2

Cultural Response

M1831: Cultural characteristics observed with added HiCrome KPC AgarSupplement (FD279).after an incubation at 35-37°C for 18-24 hours .

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
Enterococcus faecalis ATCC 29212	>=10^3	inhibited	0%	-
Klebsiella pneumoniae ATCC BAA 1705	50-100	luxuriant	>=50%	bluish green
Klebsiella pneumoniae ATCC 13883	>=10^3	inhibited	0%	-
Candida albicans ATCC 60193	>=10^3	inhibited	0%	-
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	0%	-

Storage and Shelf Life

Store dehydrated powder and prepared medium at 2-8ºC in tightly capped container. Use before expiry date on the label.

Reference

1.Pillai D.R. et.al. 2009. Emerg. Infect. Dis; Vol. 15, P.827-829
2.Hindiyeth, M., et. al. 2008, J. Clin. Microbiol.; Vol. 46, p.2879 -2883
3.Samra, Z., 2008, J. Clin. Microbiol; Vol. 146, P.3110-3111.

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