HiCrome™ KPC Agar Plate

Intended Use
Recommended for detection of Gram-negative bacteria with a reduced susceptibility to carbapenem agents from clinical samples.

Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptone special</td>
<td>15.000</td>
</tr>
<tr>
<td>Chromogenic mixture</td>
<td>3.000</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>HiCrome™ KPC Selective Supplement (FD279)</td>
<td>2.0 vials</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.0±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters

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

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 (4). 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 been found to produce carbapenemase (1,4,5).

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.

Type of specimen
Clinical samples  Rectal swab

Specimen Collection and Handling:
For clinical samples follow appropriate techniques for handling specimens as per established guidelines (2,3).
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. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.

2. 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.

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.

Quality Control

Appearance
Sterile HiCrome™ KPC Agar with supplement (FD279) in 90 mm disposable plates.

Colour of medium
Yellow coloured medium

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

pH
6.80-7.20

Sterility Test
Passes release criteria

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
<th>Colour of Colony</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterococcus faecalis ATCC 29212</td>
<td>&gt;=10⁴</td>
<td>inhibited</td>
<td>0%</td>
<td>-</td>
</tr>
<tr>
<td>Klebsiella pneumoniae ATCC BAA 1705</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
<td>bluish green</td>
</tr>
<tr>
<td>Klebsiella pneumoniae ATCC 13883 (00097*)</td>
<td>&gt;=10⁴</td>
<td>inhibited</td>
<td>0%</td>
<td>-</td>
</tr>
<tr>
<td>Candida albicans ATCC 60193</td>
<td>&gt;=10⁴</td>
<td>inhibited</td>
<td>0%</td>
<td>-</td>
</tr>
<tr>
<td>Staphylococcus aureus ATCC 25923 (00034*)</td>
<td>&gt;=10⁴</td>
<td>inhibited</td>
<td>0%</td>
<td>-</td>
</tr>
</tbody>
</table>

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 (2,3).

Reference

Disclaimer:
User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories 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 or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. 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.