

KPC Chromogenic Medium

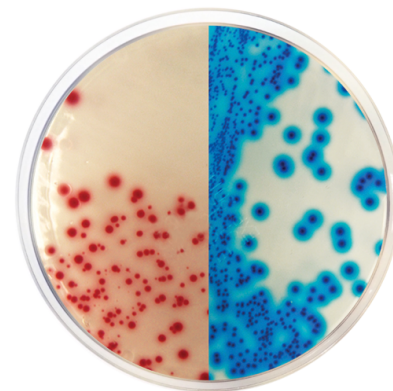
Cat. 2063

Chromogenic medium for detection of Gram-negative with reduced susceptibility to most of the carbapenem agents.

Practical information

Applications	Categories
Detection	Bacteria resistant to carbapenems

Industry: Clinical



Principles and uses

Klebsiella pneumoniae carbapenemase (KPC)-producing bacteria are a group of emerging highly drug-resistant Gram-negative bacilli causing infections associated with significant morbidity and mortality. Carbapenem antibiotics are generally not effective against KPC-producing organisms.

Although K. pneumoniae remains the most prevalent bacterial species carrying KPCs, the enzyme has been identified in several other gram-negative bacilli. Infections caused by bacteria-producing carbapenemases are becoming an increasingly significant problem worldwide because they are often not detected by routine susceptibility screening and possess an exceptional potential for dissemination. Infections caused by these organisms present clinicians with serious treatment challenges, due to limited antibiotic options.

Peptones and growth factors provide nitrogen, vitamins, minerals and amino acids essential for growth. Chromogenic mixture allows the identification of Gram-negative bacteria with a reduced susceptibility to the carbapenem agents. The supplement inhibits the growth of all the KPC non-producing bacteria.

Characteristics of KPC colonies:

- Escherichia coli: colonias pink.
- Enterobacter aerogenes: dark blue.
- Klebsiella pneumoniae: dark blue.

Formula in g/L

Bacteriological agar	16	Chromogenic mixture	3
Peptone	14	Growth factors	15

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 48,0 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 °C for 15 minutes. Cool to 50 °C and aseptically add 1 g/L of Meropenem. Mix well and dispense into plates.

Instructions for use

For clinical diagnosis, the type of sample is urine, lung aspirations and rectal samples.

- Inoculate on the surface making parallel striae with the handle or hyssop.
- Incubate in aerobic conditions at 35±2 °C for 18-24 hours.
- Reading and interpretation of results.

Note: It's important to notice that, as it happens in other chromogenic media, bacteria with atypical KPC enzyme may produce anomalous reactions in

this medium.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,2±0,2

Microbiological test

Incubation conditions: (35±2 °C / 18-24 h).

Microorganisms	Specification	Characteristic reaction
Klebsiella pneumoniae ATCC 13883	Total inhibition	
Klebsiella BAA 1705	Good growth	Blue colonies
Enterococcus faecalis ATCC 19433	Partial inhibition	Light blue colonies
Escherichia coli ATCC 2469	Good growth	Pink colonies
Escherichia coli ATCC 25922	Total inhibition	
Staphylococcus aureus ATCC 25923	Total inhibition	
Proteus mirabilis ATCC 25933	Total inhibition	

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

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