

Moeller Decarboxylase Broth w/ Lysine Hydrochloride

LQ016

Intended Use:

Recommended for differentiation of bacteria on the basis of their ability to decarboxylate L-Lysine hydrochloride.

Composition**

Ingredients	g / L
Peptone	5.000
HM peptone B #	5.000
Dextrose (Glucose)	0.500
Bromocresol purple	0.010
Cresol red	0.005
Pyridoxal	0.005
L-Lysine hydrochloride	10.000
Final pH (at 25°C)	6.0±0.2

**Formula adjusted, standardized to suit performance parameters

Equivalent to Beef extract

Directions

Label the ready to use LQ016 bottle. Inoculate 50-100 cfu sample and Incubate at specified temperature and time.

Principle And Interpretation

Many species of bacteria possess enzymes capable of decarboxylating specific amino acids in the test medium releasing alkaline-reacting amines and carbon dioxide as byproducts. The decarboxylase activity of *Enterobacteriaceae* is most commonly measured with Moeller Decarboxylase Broth (1). This medium was formulated by Moeller for detecting the production of lysine and ornithine decarboxylase and arginine dihydrolase (2). Prior to Moellers work, bacterial amino acid decarboxylases were studied by Gale (3) and Gale and Epps (4).

Decarboxylase media are also recommended by standard methods for identification of bacteria (5-8). Moeller Decarboxylase Broth w/lysine hydrochloride is used for differentiating bacteria on their ability to decarboxylate lysine hydrochloride. This medium contains HM peptone B and peptone which provide nitrogenous nutrients for the growth of bacteria. Dextrose is the fermentable carbohydrate and pyridoxal is the co-factor for the decarboxylase enzyme. Bromo cresol purple and cresol red are the pH indicators in this medium. When the medium is inoculated with the dextrose fermenting bacteria, the pH is lowered due to acid production which changes the colour of the indicator from purple to yellow. Acid produced stimulates decarboxylase enzyme. Decarboxylation of lysine yields cadaverine. Formation of the amine cadaverine increases the pH of the medium, changing the colour of the indicator from yellow to purple. If the organisms do not produce the appropriate enzyme, the medium remains acidic, yellow in colour. Each isolate to be tested should also be inoculated into the basal medium tube lacking the amino acid. After incubation, a decarboxylase test may show two layers of different colours, yellow and purple. Shake the tube gently before interpreting the results (4).

Type of specimen

Isolated Microorganism from clinical and non-clinical samples

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (7,9).After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic use. For professional 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 specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Inoculated tubes must be protected from air with a layer of sterile mineral oil. Exposure to air may cause alkalization at the surface of the medium which makes the test invalid.
2. Other biochemical tests must be carried out for confirmation.

Please refer disclaimer Overleaf.

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 clear Moeller Decarboxylase Broth w/Lysine HCl in bottles.

Colour

Light brown to greyish purple to light purple coloured clear solution

Quantity of Medium

5ml of medium in bottle.

pH

5.80-6.20

Sterility check

Passes release criteria

Cultural Response

Cultural characteristics observed on addition of a layer of sterile mineral oil and after incubation at 35-37°C for 48-72 hours.

Organism

Citrobacter freundii
ATCC 8090
Klebsiella aerogenes
ATCC 13048 (00175*)
Escherichia coli ATCC
25922 (00013*)
Klebsiella pneumoniae
ATCC 13883 (00097*)
Proteus mirabilis
ATCC 25933
Proteus hauseri
ATCC 13315

Lysine

decarboxylation

negative reaction,
yellow colour
positive reaction,
purple colour
variable reaction

positive reaction,
purple colour
negative reaction,
yellow colour
negative reaction,
yellow colour

Key : *Corresponding WDCM numbers.

Formerly known as *Proteus vulgaris* (#) Formerly known as *Enterobacter aerogenes*

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 (7,9).

Reference

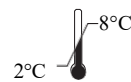
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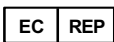
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