MOELLER DECARBOXYLASE BROTH W/ LYSINE HCL TM 790

INTENDED USE

For differentiation of bacteria on the basis of their ability to decarboxlyate L-Lysine hydrochloride

COMPOSITION

Ingredients	Gms/Ltr.
L-Lysine hydrochloride	10.000
Peptic digest of animal tissue	5.000
Beef extract	5.000
Dextrose	0.500
Bromocresol purple	0.010
Cresol red	0.005
Pyridoxal	0.005

PRODUCT SUMMARY AND EXPLANATION

The decarboxylase activity of Enterobacteriaceae is most commonly measured with Moeller Decarboxylase Broth. This medium was formulated by Moeller for detecting the production of lysine and ornithine decarboxylase and arginine dihydrolase. Prior to Moellers work, bacterial amino acid decarboxylases were studied by Gale and Gale and Epps.

Decarboxylase media are also recommended by standard methods for identification of bacteria. Moeller Decarboxylase Broth with lysine hydrochloride is used for differentiating bacteria on their ability to decarboxylate lysine hydrochloride. 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 colou

PRINCIPLE

This medium contains beef extract and peptic digest of animal tissue 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.

Inoculated tubes must be protected from air with a layer of sterile mineral oil. Exposure to air may cause alkalinization at the surface of the medium which makes the test invalid.

INSTRUCTION FOR USE

1. Dissolve 20.52 grams in 1000 ml distilled water.
2. Gently heat if necessary, to dissolve the medium completely.
3. Dispense in 5 ml amount in screw-capped tubes and sterilize by autoclaving at 15 psi (121°C) for 10 minutes.
4. Cool the tubed medium in an upright position.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder: Light yellow to greenish yellow colour, homogeneous free flowing powder

Appearance of prepared medium: Purple colour, clear solution

pH (at 25°C): 6.0 ± 0.2

INTERPRETATION:

Culture characteristics observed after incubating the tubes up to 4 days at 35 ± 2°C, after overlaying with sterile mineral oil.

Microorganisms	ATCC	Inoculum (CFU)	Lysine decarboxylation
Enterobacter aerogenes	13048	50-100	Positive reaction, purple colour
Escherichia coli	25922	50-100	Variable reaction
Klebsiella pneumoniae	13883	50-100	Positive reaction, purple colour
Proteus vulgaris	13315	50-100	Negative reaction, yellow colour
Salmonella paratyphi A	9150	50-100	Negative reaction, yellow colour
Shigella flexneri	12022	50-100	Negative reaction, yellow colour

STORAGE & STABILITY

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

REFERENCES

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7. Eaton A. D., Clesceri L. S. and Greenberg A. E., (Ed.), 1998, Standard Methods for the Examination of Water and Wastewater, 20th Ed., American Public Health Association, Washington, D.C
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NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.