TM 791 - MOELLER DECARBOXYLASE BROTH W/ ORNITHINE HCl

INTENDED USE

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

PRODUCT SUMMARY AND EXPLANATION

Moeller Decarboxylase Broth with Ornithine hydrochloride is used for differentiating gram-negative enteric bacilli on the basis of their ability to decarboxylate L-Ornithine hydrochloride. Decarboxylase Broth was introduced 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.

Acid produced stimulates decarboxylase enzyme. Arginine is first hydrolyzed to ornithine which is then decarboxylated to form putrescine. Formation of the amine putrescine 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.

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.

COMPOSITION

Ingredients	Gms / Ltr
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
L-Ornithine hydrochloride	10.000

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. When the medium is inoculated with dextrose fermenting bacteria, the pH is lowered due to acid production which changes the colour of the indicator from purple to yellow.

INSTRUCTION FOR USE

- Dissolve 20.52 grams in 1000 ml distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense in 5 ml amount in screw-capped tubes and sterilize by autoclaving at 15 psi pressure (121°C) for 10 minutes.
- Cool the tubed medium in an upright position.
- Inoculate the tubes and overlay with 2-3 ml of sterile mineral oil.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to greenish yellow homogeneous free flowing powder.
Appearance of prepared medium : Purple coloured clear solution without any precipitate.
pH (at 25°C) : 6.0±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Arginine decarboxylation	Incubation Temperature	Incubation Period
Citrobacter freundii	8090	50-100	Variable reaction	35-37°C	Upto 4 days
Enterobacter aerogenes	13048	50-100	Negative reaction, yellow colour	35-37°C	Upto 4 days
Escherichia coli	25922	50-100	Variable reaction	35-37°C	Upto 4 days
Klebsiella pneumoniae	13883	50-100	Negative reaction, yellow colour	35-37°C	Upto 4 days
Proteus mirabilis	25933	50-100	Negative reaction, yellow colour	35-37°C	Upto 4 days
Proteus vulgaris	13315	50-100	Negative reaction, yellow colour	35-37°C	Upto 4 days
Pseudomonas aeruginosa	9027	50-100	Positive reaction, purple colour	35-37°C	Upto 4 days
Salmonella Paratyphi A	9150	50-100	Delayed positive reaction/ positive reaction, purple colour	35-37°C	Upto 4 days
Salmonella Typhi	6539	50-100	Delayed positive reaction/ positive reaction, purple colour	35-37°C	Upto 4 days

Serratia marcescens	8100	50-100	Negative reaction, yellow colour	35-37°C	Upto 4 days
Shigella dysenteriae	13313	50-100	Delayed positive reaction/ positive reaction, purple colour	35-37°C	Upto 4 days
Shigella flexneri	12022	50-100	Delayed positive reaction/ positive reaction, purple colour	35-37°C	Upto 4 days
Shigella sonnei	25931	50-100	Variable Reaction	35-37°C	Upto 4 days

PACKAGING:
In pack size of 100 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES
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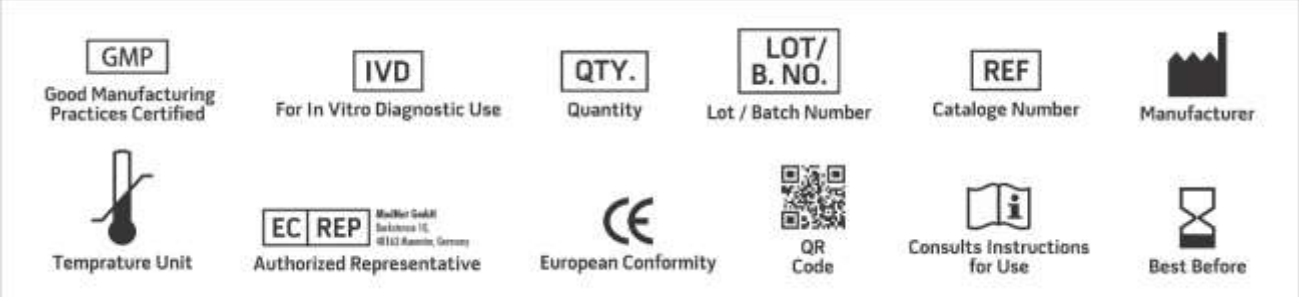

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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