TM 169 – LYSINE DECARBOXYLASE BROTH

INTENDED USE

For differentiating *Salmonella serotype arizonae* from the Bethesda Ballerup group of *Enterobacteriacae.*

PRODUCT SUMMARY AND EXPLANATION

Decarboxylase media were first described by Moeller for detecting lysine and ornithine decarboxylase and arginine dihydrolase. Falkow developed a lysine decarboxylase medium for the identification and differentiation of *Salmonella* and *Shigella*. Lysine Decarboxylase Broth is especially suited to study the decarboxylase reactions for members of *Enterobacteriaceae* other than *Klebsiella* and *Enterobacter*. Lysine Decarboxylase Broth is also recommended by APHA and other standard methods.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	5.000
Yeast extract	3.000
Dextrose (Glucose)	1.000
L-Lysine hydrochloride	5.000
Bromocresol purple	0.020

PRINCIPLE

This medium consists of Peptone and yeast extract which provide the necessary nitrogenous nutrients and vitamin B complex to the organisms. During the initial stages of incubation, following inoculation, fermentation of dextrose by the organisms leads to acid production, which causes a subsequent colour change of the bromocresol purple indicator to yellow. The acidic condition thus generated stimulates decarboxylase activity, which leads to decarboxylation of lysine to cadaverine. The alkaline conditions generated due to cadaverine production cause the bromocresol purple indicator (changed to yellow) to revert to purple colour. If the organisms do not produce decarboxylase enzyme, the colour of the medium remains yellow. Dextrose non-utilizers will not show any change in the medium colour.

INSTRUCTION FOR USE

- Dissolve 14.02 grams in 1000 ml purified/distilled water.
- Heat, if necessary to dissolve the medium completely.
- Dispense 5 ml amount into screw-capped test tubes. Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool the tubed medium in an upright position 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) : 6.8 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation. (Inoculated tubes are overlayed with sterile mineral oil).

Microorganism	ATCC	Inoculum (CFU/ml)	Lysine decarboxylation	Incubation Temperature	Incubation Period
Citrobacter freundii	8090	50-100	Variable reaction	35-37°C	18-24 Hours
Escherichia coli	25922	50-100	Variable reaction	35-37°C	18-24 Hours
Klebsiella aerogenes	13048	50-100	Positive reaction, purple colour	35-37°C	18-24 Hours
Klebsiella pneumoniae	13883	50-100	Positive reaction, purple colour	35-37°C	18-24 Hours
Proteus mirabilis	25933	50-100	Negative reaction, yellow colour	35-37°C	18-24 Hours
Proteus vulgaris	13315	50-100	Negative reaction, yellow colour	35-37°C	18-24 Hours
Salmonella Arizonae	13314	50-100	Positive reaction, purple colour	35-37°C	18-24 Hours
Salmonella Paratyphi A	9150	50-100	Negative reaction, yellow colour	35-37°C	18-24 Hours
Salmonella Typhi	6539	50-100	Positive reaction, purple colour	35-37°C	18-24 Hours
Serratia marcescens	8100	50-100	Positive reaction, purple colour	35-37°C	18-24 Hours
Shigella dysenteriae	13313	50-100	Negative reaction, yellow colour	35-37°C	18-24 Hours

PACKAGING:
In pack size of 100 gm and 500 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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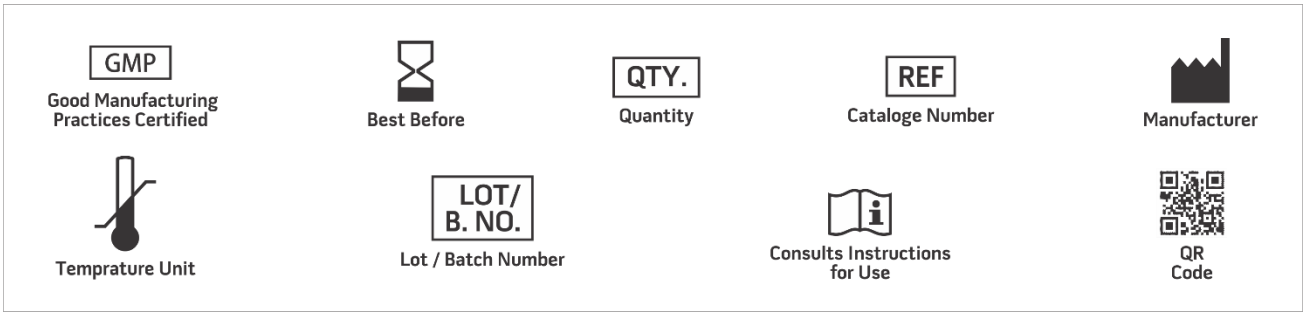

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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