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Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

Ornithine Decarboxylase Broth

Principle

Ornithine Decarboxylase Broth is modification of Moeller decarboxylase broth (1954-55). The media is composed of l-ornithine monohydrochloride, yeast extract, glucose and bromocresol purple. yeast extract provides nitrogen, vitamins, minerals, amino acids and growth factors. Glucose is carbon or energy source for the growth of microorganisms. L-ornithine monohydrochloride decarboxylated to from putrescine. Bromo cresol purple and cresol red are the pH indicators. When glucose is fermented by 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 ornithine yields putrescine in alkaline conditions, revert to purple colour. If the organisms do not produce decarboxylase enzyme, the colour of the medium remains yellow. glucose non-utilizers will not show any change in the medium color. Use light inoculate and do not read the tests after 24 hours incubation, as some organisms require longer incubation time of up to 4 days.

Use: For detection of the ability of microorganisms to decarboxylate ornithine.

Contents*

Ingredients	Gram/Litre
L-ornithine monohydrochloride	5.000
Yeast extract	3.000
Glucose	1.000
Bromocresol purple	0.015
pH at 25˚C	6.8 ±0.2

***Formula adjusted for optimum performance and parameters**

Directions: Dissolved 9.00 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Distribute 5.00 ml into the screw capped test tubes. Sterilize by autoclaving 15 lbs pressure (121˚C) for 15 minutes. Allow to cool the tubes in an upright position and overlay with 2-3 ml of sterile mineral oil.

Specimens types analyzed

Water and food products etc.

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Precautions to be taken

All the handling, experiments, storage, and discarding should be performed with the help of trained and experienced technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	**Light beige to greenish yellow color free flowing, homogeneous powder**
Reaction of 0.9 % solution	**6.8 ±0.2 at 25 ˚C**
pH	**6.60-7.00**
Color and clarity of ready medium	**Purple color, clear slightly opalescent solution**
Growth Promotion properties	**Best at ≤ 100 CFU at 32-37 ºC for 18-72 h**
Indicative properties	**Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h**
Negative control	**Performed using sterile distilled water**

Different Microbial Response: Cultural characteristics observed after an incubation at 35±2°C for 18-24 hours. (Inoculated tubes are overlayed with sterile mineral oil).

Organism	ATCC	Inoculum	Color of medium
Salmonella enterica	**9150**	**50-100**	**Purple color, positive reaction**
Salmonella typhimurium	**14028**	**50-100**	**Purple color, positive reaction**
Klebsiella aerogenes	**13048**	**50-100**	**Purple color, positive reaction**
Shigella flexneri	**9199**	**50-100**	**Yellow color, negative reaction**
Proteus mirabilis	**12453**	**50-100**	**Yellow color, negative reaction**
Escherichia coli	**25922**	**50-100**	**Variable reaction**

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Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes used, unusable or modified preparation of this product must be disposed after autoclaving or incineration after completion of task.

Reference

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