OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

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Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

Moeller Decarboxylase Broth w/Ornithine HCI

Principle

Moeller Decarboxylase Broth with Ornithine is used for differentiation of enteric bacilli on basis of their ability to decarboxylate ornithine. The media is composed of peptone, special peptone, dextrose, bromocresol purple, cresol purple and pyridoxal. Peptone and special peptone provide nitrogen, vitamins, minerals, ornithine and growth factors. Dextrose is carbon or energy source for the growth of microorganisms. Pyridoxal is the co-factor for the decarboxylase enzyme. Bromo cresol purple and cresol red are the pH indicators. When dextrose 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. Formation of these amines 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 and yellow in colour. 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.

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

Contents*

Ingredients	Gram/Litre
Peptone	5.000
Special peptone	5.000
Dextrose	0.500
Bromocresol purple	0.010
Cresol Purple	0.005
Pyridoxal	0.005
L-Ornithine	10.000
pH at 25˚C	6.8 ± 0.2

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

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Directions: Dissolve 20.50 grams in 1000 ml distilled water. Heat, if necessary, to dissolve the medium completely. Distribute 5.0 ml in screw-capped tubes and sterilize by autoclaving at 15 lbs pressure (121 °C) for 10 min, Cool to 20-25°C and aseptically inoculate test sample.

Specimens' types analyzed

Clinical samples - Blood; Food and dairy samples; Water samples

Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

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	**Beige colored with green tinged, homogeneous powder**
Reaction of 2.05%	**6.8 ±0.2 at 25 ˚C**
pH	**6.60 – 7.20**
Color and clarity of ready medium	**Purple colored clear solution**
Negative control	**Performed using sterile distilled water**

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Different Microbial Response: Cultural characteristics observed after incubation at 35-37°C for up to 4 days with addition of appropriate amino acids and overlaying with sterile mineral oil. Inoculum 50-100 CFU.

Organism	ATCC	Growth	Lysine Decarboxylation
Klebsiella aerogenes	13048	Luxuriant	Positive reaction (Purple color)
Escherichia coli	25922	Luxuriant	Variable reaction
Proteus mirabilis	12453	Luxuriant	Positive reaction (Purple color)
Klebsiella pneumoniae	13883	Luxuriant	Negative reaction (Yellow color)

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 the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

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3. **Gallowey L. D. and Burgess R., (1952), *Applied Mycology and Bacteriology*, 3rd Ed., Leonard Hill, London, 54:57.**
4. **Moeller, V. (1954). *Activity determination of amino acid decarboxylases in Enterobacteriaceae*. Acta Pathol. Microbiol. Scand. 34: 102-111.**
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