CURE LIFE SCIENCES
LAB TO LIFE

Technical Data Sheet

Ornithine Decarboxylase Broth CLS-DCM-ODB-01

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 monhydrochloride 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: Recommended for detection of ornithine decarboxylating microorganisms.

Contents*

Ingredients	**Gram/Litre**
L-orithine monohydrochoride	5.000
Yeast extract	3.000
Glucose	1.000
Bromcresol 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.

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	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 35-37°C for 18-24 hours. (Inoculated tubes are overlayed with sterile mineral oil).

Organism	ATCC	Inoculum CFU	Color of medium
Salmonella Arizonae	13314	50-100	Purple color positive reaction
Escherichia coli	8739	50-100	Variable reaction
Salmonella paratyphi A	9150	50-100	Purple color positive reaction
Proteus vulgaris	13315	50-100	Purple color positive reaction

Storage and Shelf Life

Hygroscopic; keep container tightly closed. Store in cool dry place.

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

1. American Public Health Association, (1978) *Standard Methods for the Examination of Dairy Products*, 14th Ed., Washington
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3. Downes F. P. and Ito K., (Ed.), (2001), *Compendium of Methods for the Microbiological Examination of Foods*, 4th Ed., American Public Health Association, Washington, D.C.
4. Eaton A. D., Clesceri L. S., Rice E. W. and Greenberg A. W., (Eds.), (2005), Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.
5. Moeller, V. (1954). *Activity determination of amino acid decarboxylases in Enterobacteriaceae.* Acta Pathol. Microbiol. Scand. 34: 102-111.
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7. Moeller, V. (1955). *Simplified tests of some amino acid decarboxylases for arginine dihydrolase system*. Acta Pathol. Microbiol. Scand. 36: 158-172.