OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

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Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

Arginine Dihydrolase Broth

Principle

Agrinine dihydrolase broth is composed of peptone, L-agrinine, Dipotassium phosphate, sodium chloride, bromo cresol purple and agar. Peptone provides nitrogen and essential nutrients. L-arginine is substrate for arginine dihydrolase. Dipotassium phosphate buffers the medium. Sodium chloride maintains osmatic equilibrium. Bromocresol purple is pH indicator dye. Agar is solidifying agent. The dextrose fermentation produce acid decreases the pH of medium and change the indicator from purple to yellow. If the bacteria produce the arginine dihydrolase or decarboxylase, produce amines, result in increase in pH of the medium causing the indicator to change from yellow to a light or deep purple. For Enterobacteriaceae differentiation, a control tube is used without arginine. If the control tubes give positive purple reaction the test is considered as negative.

Use: For detection of arginine dihydrolase producing Microorganisms.

Contents*

Ingredients	Gram/Liter
Peptone	1.000
L-Agrinine	10.000
Dipotassium Phosphate	0.300
Sodium Chloride	5.000
Bromocresol Purple	0.016
Agar	3.000
pH at 25˚C	6.0 ±0.2

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

Directions: Dissolve 19.31 grams in 1000 ml distilled water. Boil to dissolve the medium completely and distribute aseptically. Sterilize by autoclaving at 15 lbs pressure (121 °C) for 15 min, cool it to 42-45 °C, allow the tube to cool it on upright position and inoculate test sample aseptically.

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Specimens types analyzed

Pharmaceutical samples, clinical and non-clinical samples 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 tan colored free flowing, homogeneous powder**
Reaction of 1.93% solution	**6.0 ±0.2 at 25 ˚C**
pH	**5.80- 6.20**
Gelling	**Semi solid comparable with 0.3% agar semi gel**
Color and clarity of ready medium	**Purple colored clear to opalescent semi gel**
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

Organism	Inoculum	Growth	Arginine di-hydrolase	Incubation period
Klebsiella aerogenes **(ATCC 13048)**	**50-100**	**Luxuriant**	**Negative reaction (Yellow color)**	**3237 °C, 18-48 h**
Klebsiella pneumoniae **(ATCC 13883)**	**50-100**	**Luxuriant**	**Negative reaction (Yellow color)**	**3237 °C, 18-48 h**
Salmonella typhimurium **(ATCC 14028)**	**50-100**	**Luxuriant**	**Positive Reaction (Purple color)**	**3237 °C, 18-48 h**

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

Reference

1. ***Moeller, V. 1955. Simplified tests of some amino acid decarboxylases for arginine dihydrolase system. Acta Pathol. Microbiol. Scand. 36: 158-172.***
2. ***Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.***

Disclaimer:

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