

TM 1140 – ARGININE DIHYDROLASE BROTH

INTENDED USE

For detection of Arginine dihydrolase producing microorganisms.

PRODUCT SUMMARY AND EXPLANATION

Decarboxylase Media used for the detection of arginine dihydrolase and lysine and ornithine decarboxylase was first introduced by Moeller. Arginine Dihydrolase Broth is used for detection of arginine dihydrolase producing microorganisms. These types of media are used to differentiate bacteria on the basis of their decarboxylating activity towards the amino acids. Arginine decarboxylase enzyme is also known as Arginine dihydrolase. Arginine decarboxylase (or dihydrolase) production by various members of enteric bacteria aids in differentiating bacteria with closely related physiological characteristics. Bacteria producing arginine dihydrolase enzyme decarboxylate arginine present in this medium to putrescine. The production of amine, putrescine, elevates the pH. Bromo cresol purple is the pH indicator which forms purple colour in alkaline condition. Colour change from purple to yellow and then back to purple is positive reaction. In differentiation of Enterobacteriaceae, control tubes without arginine must be used. If the tubes give positive purple reaction the test is considered as negative.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	1.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	0.300
L-Arginine	10.000
Bromo cresol purple	0.016
Agar	3.000

PRINCIPLE

Peptone provide the necessary nutrients to the organisms while L-arginine stimulates the arginine dihydrolase synthesis. Dipotassium phosphate buffers the medium while sodium chloride maintains the osmotic balance.

INSTRUCTION FOR USE

- Suspend 19.31 grams in 1000 ml purified / distilled water.
- Heat if necessary to dissolve the medium completely and distribute in 13x100 mm tubes.
- Sterilize by autoclaving at 115°C for 15 minutes.
- Allow the tubes to cool in an upright position.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Light yellow to grey homogeneous free flowing powder.
Appearance of prepared medium	: Purple coloured clear to slightly opalescent gel forms in tubes as butts.
pH (at 25°C)	: 6.0±0.2

INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Motility	Arginine dihydrolase	Incubation Temperature	Incubation Period
<i>Klebsiella aerogenes</i>	13048	50-100	Luxuriant	Positive, growth away from stabline causing turbidity	Negative reaction, yellow colour or no colour change	35-37°C	18-24 Hours
<i>Klebsiella pneumoniae</i>	13883	50-100	Luxuriant	Negative, growth along the stabline, surrounding medium remains clear	Negative reaction, yellow colour or no colour change	35-37°C	18-24 Hours
<i>Proteus vulgaris</i>	13315	50-100	Luxuriant	Positive, growth away from stabline causing turbidity	Negative reaction, yellow colour or no colour change	35-37°C	18-24 Hours
<i>Salmonella Typhi</i>	6539	50-100	Luxuriant	Positive, growth away from stabline causing turbidity	Positive reaction, purple colour	35-37°C	18-24 Hours
<i>Salmonella Typhimurium</i>	14028	50-100	Luxuriant	Positive, growth away from stabline causing turbidity	Positive reaction, purple colour	35-37°C	18-24 Hours
<i>Enterobacter sakazakii</i>	12868	50-100	Luxuriant	Positive, growth away from stabline causing turbidity	Positive reaction, purple colour	35-37°C	18-24 Hours

PACKAGING:

In pack size of 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

1. Gale and Epps, 1944, Biochem. J., 38:250.
2. Moeller, 1954, Acta Pathol. Microbiol. Scand., 34:102.
3. Moeller, 1954, Acta Pathol. Microbiol. Scand., 34:259.
4. Moeller, 1955, Acta Pathol. Microbiol. Scand., 36:158



 Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

***For Lab Use Only**
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