Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Arginine Dihydrolase MiVeg Broth

Product Code : VM1619

Application:- Arginine Dihydrolase MiVeg Broth is used for detection of arginine dihydrolase-producing microorganisms.

Composition

Ingredients	Gms / Litre
MiVeg peptone	1.0
Sodium chloride	5.0
Dipotassium hydrogen phosphate	0.3
L-Arginine	10.0
Bromo cresol purple	0.016
Agar	3.0
Final pH (at 25°C)	6.0± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Arginine Dihydrolase MiVeg Broth is prepared by using MiVeg peptone in place of peptic digest of animal tissue which makes the medium free of BSE/TSE risk. Arginine Dihydrolase MiVeg Broth is the modification of Arginine Dihydrolase Broth . This medium is used for detection of arginine dihydrolase producing microorganisms. This media can be used to differentiate bacteria on the basis of their decarboxylating activity towards amino acids. Arginine decarboxylase enzyme is also known as Arginine dihydrolase. Moeller studied these enzyme systems to determine their usefulness for differentiating *Enterobacteriaceae* (1). Arginine decarboxylase (or dihydrolase) production by various members of enteric bacteria aids in differentiating bacteria with closely related physiological characteristics (2).Bacteria producing arginine dihydrolase enzyme produces alkaline products and elevates the pH of the medium. Bromo cresol purple is the pH indicator which forms purple colour in alkaline condition. MiVeg peptone supllies all essential nutrients to the organisms while L-Arginine stimulates the arginine dihydrolase synthesis. Dipotassium phosphate provides buffering system in the medium while sodium chloride maintains the osmotic balance.

Methodology

Suspend 19.3 grams of powder media in 1000 ml distilled water. Mix thoroughly Heat to boiling to dissolve the medium completely and distribute in 13x100 mm tubes. Sterilize by autoclaving at 10 lbs pressure (115°C) for 15 minutes. Allow the tubes to cool in an upright position. Overlay the inoculated medium with mineral oil.

Quality Control

Physical Appearance

Light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Gelling

Semisolid, comparable with 0.3% Agar gel.

Colour and Clarity of prepared medium

Purple coloured, clear to slightly opalescent semi solid gel forms in tubes as butts.

Reaction

Reaction of 1.93% w/v aqueous solution is pH 6.0 ± 0.2 at 25°C.

pH range

5.8-6.2

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours

Organisms (ATCC)	Inoculum (CFU)	Growth	Motility	Argininie dihyrolase
Enterobacter aerogenes (13048)	10^2-10^3	luxuriant	+	-
Klebsiella pneumoniae (13883	10^2-10^3	luxuriant	-	-
Proteus vulgaris (13315)	10^2-10^3	luxuriant	+	-
Salmonella serotype Typhi (6539)	10^2-10^3	luxuriant	+	+
Salmonella serotype Typhimurium (14028)	10^2-10^3	luxuriant	+	+

Key : Arginine dihydrolase
+ = positive, purple colour
- = negative, yellow colour or no colour change
Motility
+ = positive, growth away from stabline (motile)
- = negative, growth along the stabline (non-motile)

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. Moeller, 1955, Acta Path. et Micro. Scand., 34:102.
2. Gale and Epps, 1944, Biochem. J., 38:250.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
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