Arginine Dihydrolase HiVeg™ Broth MV619

Arginine Dihydrolase HiVeg Broth is used for detection of arginine dihydrolase-producing microorganisms.

Composition ** :

Ingredients	Grams/Litre
HiVeg 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.

Directions :

Suspend 19.3 grams in 1000 ml distilled water. 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.

Principle and Interpretation :

Arginine Dihydrolase HiVeg Broth is prepared by completely replacing Peptic digest of animal tissue with HiVeg peptone which makes the medium free of BSE/TSE risk. Arginine Dihydrolase HiVeg Broth is the modification of Arginine Dihydrolase Broth. Arginine Dihydrolase HiVeg Broth 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. HiVeg 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.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV619 HiVeg peptone	**M619** Peptic digest of animal tissue

Recommended for	:	Detection of arginine dihydrolase producing microorganisms
Reconstitution	:	19.3 g/l
Quantity on preparation (500g)	:	25.9 L
pH (25°C)	:	6.0 ± 0.2
Supplement	:	None
Sterilization	:	115°C / 15 minutes.

Storage : Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.

Quality Control :

Appearance of powder

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

Gelling

Semisolid, comparable with 0.3% Agar gel.

Colour and Clarity

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

Reaction

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

Cultural Response

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

Organisms (ATCC)	Inoculum (CFU)	Growth	Motility	Arginine dihydrolase
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)

References :

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

◉ Prepared from GMO free Vegetable proteins replacing Animal based peptones. Freedom from BSE/TSE worries.