Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Lysine Arginine Iron MiVeg Agar

Product Code : VM2230

Application:- Lysine Arginine Iron MiVeg Agar is used for the isolation and presumptive identification of *Yersinia* species from milk and milk products.

Composition

Ingredients	Gms / Litre
L-Arginine	10.0
L-Lysine	10.0
MiVeg peptone	5.0
Yeast extract	3.0
Glucose	1.0
Ferric ammonium citrate	0.5
Sodium thiosulphate	0.04
Bromo cresol purple	0.02
Agar	15.0
Final pH (at 25°C)	6.8 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Lysine Arginine Iron MiVeg Agar is prepared by adding MiVeg peptone instead of Peptic digest of animal tissue thereby making the medium BSE/TSE risks free. Lysine Arginine Iron MiVeg Agar is the modification of Lysine Arginine Iron Agar which is formulated as recommended by APHA (1) for isolation and identification of *Yersinia* species from milk and milk products.

MiVeg peptone and yeast extract supplies all the essential nitrogenous nutrients and vitamin B complex to support the growth of the organisms. Ferric ammonium citrate and sodium thiosulphate are the hydrogen sulphide (H_2S) production indicators. This medium contains two amino acids L-Arginine and L-Lysine. The organisms that do not decarboxylate L-Lysine but ferment glucose, gives an alkaline slant and an acid butt. The sample suspected of *Yersinia* can be inoculated on MacConkey MiVeg Agar (VM1081) rather than directly streaking onto Lysine Arginine Iron MiVeg Agar. Inoculate the suspected *Yersinia* colony from MacConkey MiVeg Agar (VM1081) on Lysine Arginine Iron MiVeg Agar and incubate at 22-26°C upto 48 hours. Organisms which gives an alkaline slant, acidic butt, no gas and no hydrogen sulphide (H_2S) production on this medium and urease-positive are considered to be

Methodology

Suspend 44.56 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. Dispense in 5 ml amount into screw capped test tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool the tubed medium to give slants and butts.

Quality Control

Physical Appearance

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

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

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

Reaction

Reaction of 4.45% w/v aqueous solution is pH 6.8 ± 0.2 at 25°C.

pH Range

6.6-7.0

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 25-30°C for 24 - 48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Slant	Butt	Gas	H_2S
Klebsiella pneumoniae (13883)	10^2-10^3	luxuriant	AK	A	+	-
Yersinia enterocolitica (27729)	10^2-10^3	luxuriant	AK	A	-	-

Key : AK = alkaline reaction, purple colour.
A = acidic reaction, yellow colour.

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 day.

VM2230 Lysine Arginine Iron MiVeg Agar

1. Control
2. *Klebsiella pneumoniae*
3. *Yersinia enterocolitica*

Further Reading

1. Standard Methods for the Examination of Dairy Products. 17th Edition, 2004 Edited by H. Michael Wehr and Joseph H.Frank.
2. U.S.Food and Drug Administration, 1984, Bacteriological Analytical Manual, 6th ed., Arlington, VA.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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