

Technical Information

Leifson's Deoxycholate MiVeg Agar, Modified

Product Code :VM2138

Application:- Leifson's Deoxycholate MiVeg Agar, Modified is recommended for selective isolation and differentiation of *Salmonella* and *Shigella* species.

Composition

Ingredients	Gms / Litre
MiVeg peptone	5.0
MiVeg extract	5.0
Lactose	10.0
Sodium citrate	5.0
Ferric citrate	1.0
Synthetic detergent No. III	2.5
Sodium thiosulphate	5.0
Neutral red	0.025
Agar	15.0
Final pH (at 25°C)	7.0 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Leifson Deoxycholate MiVeg Agar, Modified is prepared by using MiVeg peptone and MiVeg extract in place of peptic digest of animal tissue and Beef extract thus making the medium free from BSE/TSE risks. This medium is the modification of Leifson Deoxycholate Agar which was described by Leifson (1) and further modified by Hynes (2) for selective isolation and differentiation of *Salmonella* and *Shigella* species.

MiVeg peptone and MiVeg extract supplies all the necessary growth factors. Sodium citrate and synthetic detergent No. III inhibits gram-positive bacteria and coliforms but allow the gram-negative bacilli to grow. Lactose is the fermentable carbohydrate that helps in differentiation of lactose fermenters from non-lactose fermenting species, such as *Salmonella*, *Proteus* and *Shigella*. Lactose fermenting strains grow as red to pink colonies due to absorption of neutral red whereas non-fermenting species grow as colourless colonies. Ferric citrate and sodium thiosulphate help in H₂S (hydrogen sulphide) determination.

Methodology

Suspend 48.5 grams of powder media in 1000 ml distilled water. Mix well and heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE OR REMELT as excessive heating is detrimental to the medium.

Quality Control

Physical Appearance

Beige coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Reddish orange coloured, clear to slightly opalescent gel forms in petri plates.

Reaction

Reaction of 4.85% w/v aqueous solution is pH 7.0 ± 0.2 at 25°C.

pH Range

6.8 - 7.2

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony
<i>Enterococcus faecalis</i> (29212)	10 ² -10 ³	inhibited	0%	–
<i>Escherichia coli</i> (25922)	10 ² -10 ³	none-poor	<10%	pink
<i>Salmonella</i> serotype Typhi (6539)	10 ² -10 ³	luxuriant	>50%	colourless-tan
<i>Salmonella</i> serotype Typhimurium (14028)	10 ² -10 ³	luxuriant	>50%	colourless-tan
<i>Salmonella</i> serotype Enteritidis (13076)	10 ² -10 ³	luxuriant	>50%	black centered
<i>Shigella sonnei</i> (25931)	10 ² -10 ³	luxuriant	>50%	colourless-pink

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° in sealable plastic bags for 2-5 day.

Further Reading

1. Leifson E., 1935, J. Pathol. Bacteriol., 40:581.
2. Hynes M., 1942, J. Pathol. Bacteriol., 40:581.
3. Macfaddin J. 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol.1. Williams and Wilkins, Baltimore.

Disclaimer :

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