

Technical Information

Lee's MiVeg Agar

Product Code : VM1602

Application:- Lee's MiVeg Agar is used for differential enumerations of yoghurt starter bacteria (*Lactobacillus bulgaricus* and *Streptococcus thermophilus*).

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	10.0
Yeast extract	10.0
Lactose	5.0
Sucrose	5.0
Calcium carbonate	3.0
Dipotassium phosphate	0.5
Bromo cresol purple	0.02
Agar	18.0
Final pH (at 25°C)	7.0 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Lee's MiVeg Agar is prepared by adding MiVeg hydrolysate instead of Casein enzymic hydrolysate thereby making the medium BSE/TSE risks free. Lee's MiVeg Agar is the modification of Lee's Agar which is formulated as per APHA (1) for differential enumeration of yoghurt starter bacteria, homofermentative *Lactobacillus bulgaricus* and heterofermentative *Streptococcus thermophilus*. Yoghurt is made by the controlled fermentation of milk held at 43°C using a starter culture of *Streptococcus thermophilus* and *Lactobacillus bulgaricus*. *Lactobacilli* grows better under low redox potential which can be lowered by first growing *Streptococci*, thereby it enables *Lactobacilli* to grow which in turn produces certain growth stimulatory products to support the growth of *Streptococci*.

MiVeg hydrolysate and yeast extract supplies all the essential nitrogenous nutrients to the yoghurt (lactic) starter bacteria. Lactose and sucrose are the fermentable carbohydrates. Calcium carbonate is added to medium along with the dipotassium phosphate to buffer the medium and avoid the drastic drop in pH due to lactic acid formation. Bromo cresol purple is the pH indicator which turns yellow in acidic condition and imparts yellow colour to the colony. It is recommended to dry the media plates for 18-24 hours prior to use.

Methodology

Suspend 51.52 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat just to boiling. Sterilize by autoclaving at 15 lbs pressure (121°C) for 20 minutes. While dispensing, stir the medium to prevent settling of calcium carbonate. Pour into sterile petri plates to obtain 4-5 mm thick gel.

NOTE : Due to the presence of calcium carbonate the prepared medium forms opalescent solution with white precipitate.

Quality Control

Physical Appearance

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

Gelling

Firm, comparable with 1.8% Agar gel.

Colour and Clarity of prepared medium

Purple coloured, opaque gel forms in petri plates.

Reaction

Reaction of 5.15% w/v aqueous solution is pH 7.0 $\pm$ 0.2 at 25°C.

pH Range

6.8 - 7.2

Cultural Response/Characteristics

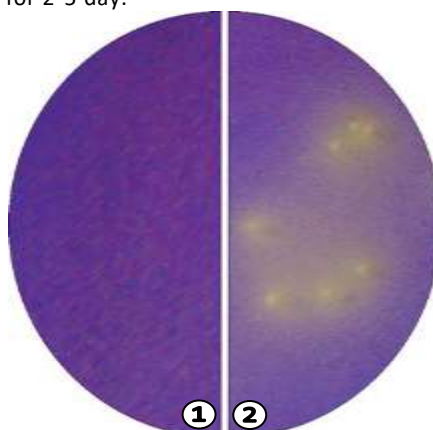
Cultural characteristics observed after an incubation at 35-37°C for 48 hours in presence of Carbon dioxide (CO₂).

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony
<i>Lactobacillus bulgaricus</i> (11842)	10 ² -10 ³	luxuriant	>70%	white
<i>Streptococcus thermophilus</i> (14486)	10 ² -10 ³	luxuriant	>70%	yellow

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.



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1. Control

2. *Streptococcus thermophilus*

Further Reading

- Downes FP, Ito K (Eds.), 2001, Compendium of Methods For the Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
- Davis J.G., Ashton T.F. and MaCaskill M., 1971, Dairy Ind., 36:569.

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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