Technical Information

Listeria Identification MiVeg Broth Base (PALCAM)

Product Code : VM2090

Application:- Listeria Identification MiVeg Broth Base (PALCAM) is used for the selective enrichment and identification of *Listeria* species.

Composition

Ingredients	Gms / Litre
MiVeg peptone	23.0
Yeast extract	5.0
Lithium chloride	10.0
Esculin	0.8
Ammonium ferric citrate	0.5
D-Mannitol	5.0
Soya lecithin	1.0
Polysorbate 80	2.0
Phenol red	0.08
Final pH (at 25°C)	7.4 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Listeria Identification MiVeg Broth Base (PALCAM) is prepared by using vegetables peptones in place of animal based peptones thus making the medium free from BSE/TSE risks. This medium is the modification of Listeria Identification Broth Base, also known as Polymyxin Acriflavin Lithium-chloride Ceftazidime Aesculin Mannitol (PALCAM) Broth Base which was formulated as described by Van Netten et al (1) for selective enrichment of *Listeria* species.

MiVeg peptone and yeast extract supplies essential nutrients required for the optimum growth of organisms. Lithium chloride and added selective supplement (2) favours the growth of *Listeria* species while inhibiting other microflora. Soya lecithin has similar properties as that of egg-yolk hence additional supplementation of egg-yolk emulsion is not required. After 24-48 hours of incubation at 30°C, 0.1 ml of the broth is streaked on Listeria Selective Agars such as Listeria Identification MiVeg Agar Base (PALCAM) (VM2064) or Listeria Oxford MiVeg Medium Base (VM2145). PALCAM Medium is a differential diagnostic medium utilizing two indicator system, as esculin ferric citrate to detect esculin hydrolysis and combination of mannitol and phenol red to detect mannitol fermentation.

Methodology

Suspend 23.7 grams of powder media in 500 ml distilled water. Mix thoroughly and heat if necessary to ensure complete solution. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add sterile reconstituted contents of 1 vial of Listeria Selective Supplement (PALCAM)(MS2061). Mix well before dispense into tubes.

Quality Control

Physical Appearance

Pink coloured, homogeneous, free flowing powder.

Colour and Clarity of prepared medium

Red coloured, clear solution without any precipitate.

Reaction

Reaction of 4.74% w/v aqueous solution is pH 7.4 ± 0.2 at 25°C.

pH Range

7.2-7.6

Cultural Response/Characteristics

Cultural characteristics observed on addition of 1 vial of Listeria Selective Supplement (PALCAM) (MS2061) after an incubation at 35-37°C for 24 - 48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Colour of colony*
Enterococcus faecalis (29212)	10^2-10^3	inhibited	–
Listeria monocytogenes (19118)	10^2-10^3	good	black
Micrococcus luteus (10240)	10^2-10^3	inhibited	–
Staphylococcus aureus (25923)	10^2-10^3	inhibited	–

Key : * = On Listeria Identification Veg Agar Base (VM2064)

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.

Further Reading

1. Van Netten P., et al, 1989, Int. J. Food. Microbiol., 8:299.
2. Lund A.M., 1991, J. Food Protect., 54:602.

Disclaimer :

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