Technical Information

Listeria Selective MiVeg Agar (Twin Pack)

Product Code : VM1567

Application:- Listeria Selective MiVeg Agar is used for the cultivation and selective isolation of *Listeria* species from clinical specimens.

Composition

Ingredients	Gms / Litre
Part A	
MiVeg hydrolysate	10.00
MiVeg peptone	10.00
Dextrose	1.00
Sodium chloride	5.00
Thiaminium dichloride	0.005
Acriflavin hydrochloride (Trypaflavin)	0.01
Nalidixic acid	0.04
Agar	13.00
Part B	
Potassium thiocyanate	37.50
Final pH (at 25°C)	7.4 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Listeria Selective MiVeg Agar 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 Enrichment Agar which was given by Feindt (1) for the cultivation and isolation of *Listeria* species from clinical and non-clinical specimens. Obiger and Schonberg (2) reported the superiority of this agar to yield *Listeria* from mix- infected specimens.

Thiocyanate and Nalidixic acid inhibits gram-negative bacteria (3, 4). Bockemühl (5) reported suppression of *Enterococci* by combination of selective agents and acridine dyes. The combination of Acriflavin hydrochloride and Nalidixic acid was recommended by Ralovich et al (6) and Kampelmacher and Van Noorle Jansen (7) for the isolation of Listeria. The mix infected specimen is added directly to Listeria Enrichment MiVeg Broth or subjected to cold enrichment (9) in Tryptose MiVeg Broth (VM1179) & then cultured on Listeria Selective MiVeg Agar. Haemolytic forms can be identified by inoculating Blood Agar MiVeg (VM1073). MiVeg hydrolysate, MiVeg peptone supplies all the necessary nutrients required for the optimum growth of microorganisms. Thiaminium dichloride is the vitamin B source added to improve the growth of *Listeria*.

Methodology

Suspend 39 grams of Part A and 37.5 grams of Part B in 1000 ml distilled water. Mix well and heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Part A : Yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Part B : White coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.3% Agar gel.

Colour and Clarity of prepared medium

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

Reaction

Reaction of (3.9% w/v Part A and 3.75% w/v Part B) is pH 7.4 ± 0.2 at 25°C.

pH Range

7.2 - 7.6

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for48 hours (If possible in a 10% CO_2 atmosphere).

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery
Listeria monocytogenes (19112)	10^2-10^3	luxuriant	>50%
Listeria monocytogenes (19118)	10^2-10^3	luxuriant	>50%
Enterococcus faecalis (29212)	2×10^3-10^4	none-poor	<10%
Escherichia coli (25922)	2×10^3-10^4	inhibited	0%
Pseudomonas aeruginosa (27853)	2×10^3-10^4	inhibited	0%

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. Feindt E., 1972, Inuug. Diss., Würzburg.
2. Obiger G. and Schonberg A., 1973, Fleischwirtschaft, 10:1450.
3. Lebnert C., 1964, Arch. Exp. Vet. Med., 18:891 and 1247.
4. Beerens H. and Tahon-Castel M.M., 1966, Ann. Inst. Pasteur, 111:90.
5. Bockemühl J., Seeliger H.P.R. and Kathke R., 1971, J. Med. Microbiol. Imm 157:84.
6. Ralorich B., et al, 1971, Zbl. Bakt. I.Orig., 216:88.
7. Kampelmacher E.H. and Van Noorle-Jansen L.M., 1972, Zbl. Bakt. J. Orig., 221:139.
8. Le Guilloux M., 1980, Bull. Soc. Vet. Prat. de France, 64:45.
9. Grey M.L. et al, 1948, J. Bact., 55:471.

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