Listeria Selective Agar (Twin Pack)

M567

Listeria Selective Agar is used for cultivation and selective isolation of *Listeria* species from clinical specimens.

Composition**

Ingredients	Gms / Litre
Part A	-
Casein enzymic hydrolysate	10.000
Peptic digest of animal tissue	10.000
Dextrose	1.000
Sodium chloride	5.000
Thiaminium dichloride	0.005
Acriflavin hydrochloride (Trypaflavin)	0.010
Nalidixic acid	0.040
Agar	13.000
Part B	-
Potassium thiocyanate	37.500
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

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

Principle And Interpretation

Listeria Selective Agar was proposed by Feindt (1) for the cultivation of *Listeria* species from clinical and non-clinical specimens. Obiger and Schonberg (2) reported the superiority of these media to yield *Listeria* from mix-infected specimens.

Casein enzymic hydrolysate, peptic digest of animal tissue provides essential nutrients. Thiaminium dichloride is the vitamin B source added to improve the growth of *Listeria* . 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* . Listeria Enrichment Broth can be further improved by adding Colimycin alongwith Nalidixic acid (8). The mix infected specimen is added directly to Listeria Enrichment Broth or subjected to cold enrichment and then cultured on Listeria Selective Agar. Haemolytic forms can be identified by inoculating Blood Agar (M073).

Quality Control

Appearance

Part A : Cream to yellow homogeneous free flowing powder Part B : White to cream 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 medium (3.9% w/v Part A + 3.75% w/v Part B) at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

Cultural characteristics observed in presence of 10% Carbon dioxide (CO_2) after an incubation at 35-37°C for 48 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
Enterococcus faecalis ATCC 29212	50-100	none-poor	<=10%
Escherichia coli ATCC 25922	>=10^3	inhibited	0%
Listeria innocua ATCC 33090	50-100	luxuriant	>=50%
Listeria ivanovii ATCC 19119	50-100	luxuriant	>=50%
Listeria monocytogenes ATCC 19112	50-100	luxuriant	>=50%
Listeria monocytogenes ATCC 19118	50-100	luxuriant	>=50%

Storage and Shelf Life

Store dehydrated and prepared medium at 2-8°C. Use before expiry period on the label.

Reference

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.,8:891 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.Grey M.L. et al, 1948, J. Bact., 55:471.

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