



Listeria Selective Agar Base

M1474

Listeria Selective Agar Base with addition of selective supplement is recommended for selective isolation and cultivation of *Listeria monocytogenes*

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	17.000
Papaic digest of soyabean meal	3.000
Yeast extract	6.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	2.500
Dextrose	2.500
Agar	15.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 51.0 grams 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. Cool to room temperature and aseptically add rehydrated contents of 1 vial of Listeria Selective Supplement II, (FD063) or 2 vials of Listeria Selective Supplement II, (FD063I) as desired. Mix well before dispensing.

Principle And Interpretation

Listeria monocytogenes has been isolated from numerous environmental sources such as silage, soil, decaying vegetation, sewage, damp earth, straw and faeces (1, 2). Listeria Selective Agar Base with Listeria Selective Supplement is used for isolation and cultivation of *L. monocytogenes* from clinical specimens. The basic media is formulated as per Lovett et al (3) with the addition of agar.

Casein enzymic hydrolysate, papaic digest of soyabean meal and yeast extract provide carbon and nitrogen compounds essential for bacterial metabolism. Dextrose is the energy source. The medium is rendered selective by addition of selective supplement. Amphotericin B inhibits the growth of saprophytic fungi. Nalidixic acid inhibits growth of gram-negative organisms and acriflavin suppresses gram-positive microorganisms (4, 5).

Listeria monocytogenes is a highly pathogenic organism and proper precautions should be taken while handling.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Fluorescent yellow coloured, clear to slightly opalescent solution.

Reaction

Reaction of 5.1% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

M1474: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response <i>Listeria monocytogenes</i> ATCC 19118	50-100	luxuriant	≥50%

<i>Listeria monocytogenes</i> ATCC 19112	50-100	luxuriant	$\geq 50\%$
<i>Listeria monocytogenes</i> ATCC 19111	50-100	luxuriant	$\geq 50\%$
<i>Escherichia coli</i> ATCC 25922	$\geq 10^3$	inhibited	0%
<i>Candida albicans</i> ATCC 10231	$\geq 10^3$	inhibited	0%
<i>Staphylococcus aureus</i> ATCC 25923	50-100	none-poor	$\leq 10\%$

Storage and Shelf Life

Store below 30°C in tightly closed container and prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1. Gray M. L., 1960, Science, 132:1767.
2. Weis J., and Seeliger H. P. R., 1975, Appl. Microbiol. 30:29.
3. Lovette J., Francis D.W and Hunt J.M., 1987, J. Food Protection, 50:188.
4. Lee W.K. and McClain D., 1986, Appl. Environ, Microbiol., 52:1215.
5. McClain D. and Lee W.H., 1988, J. Assoc. off. Anal. Chem., 71:660.

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