

Technical Information

Listeria Selective Agar Base

Product Code: DM 2474

Application: - Listeria Selective Agar Base with addition of selective supplement is used 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

Principle & 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 etal (3) with the addition of agar.

Casein enzymic hydrolysate, papaic digest of soyabean meal and yeast extract supply carbon and nitrogen compounds essential for bacterial metabolism. Dextrose acts as 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.

Methodology

Suspend 51.0 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat to boil 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, (MS 2063) or 2 vials of Listeria Selective Supplement II, (MS 2063I) as desired. Shake well before dispensing.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity

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 Range

7.10-7.50

Cultural Response

DM 2474: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
<i>Listeria monocytogenes</i> ATCC 19118	50-100	luxuriant	>=50%
<i>Listeria monocytogenes</i> ATCC 19112	50-100	luxuriant	>=50%
<i>Listeria monocytogenes</i> ATCC 19111	50-100	luxuriant	>=50%
<i>Escherichia coli</i> ATCC 25922	>=10 ³	inhibited	0%
<i>Candida albicans</i> ATCC 10231	>=10 ³	inhibited	0%
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant	>=50%

Storage and Shelf Life

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

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

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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