

Technical Information

Listeria Selective MiVeg Broth Base

Product Code : VM1889

Application:- Listeria Selective MiVeg Broth Base with addition of selective supplement is recommended for selective isolation and cultivation of *Listeria monocytogenes*.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	17.0
Papaic digest of soyabean meal	3.0
Sodium chloride	5.0
Dipotassium hydrogen phosphate	2.5
Dextrose	2.5
Yeast extract	6.0
Final pH (at 25°C)	7.3 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Listeria Selective MiVeg Broth Base is prepared by using vegetables peptones instead of animal based peptone thus making the medium free from BSE/TSE risks. Listeria Selective MiVeg Broth Base is the modification of Listeria Selective Broth Base which was formulated as per Lovett et al (1) for the selective enrichment of *Listeria* species from milk, milk products and other foods.

MiVeg hydrolysate, Papaic digest of soyabean meal and yeast extract supply carbon and nitrogen compounds essential for bacterial metabolism. Dextrose serve as an energy source. Selective supplement addition, imparts selectivity to the medium. Amphotericin B inhibits the growth of saprophytic fungi. Addition of Nalidixic acid inhibits growth of gram-negative organisms and Acriflavin suppresses gram-positive microorganisms (2, 3).

For enrichment, 25 gm or 25 ml sample is added to 225 ml medium in a stomacher bag. Homogenize the material if required. Incubate at 30°C for upto 7 days. Agello et al (4) showed that incubation period of 7 days allows better recovery of environmentally stressed *Listeria* from milk and milk products. The enrichment broth is further subcultured on Listeria Selective MiVeg Agar (VM1567) after 1, 2 and 7 days.

NOTE: *Listeria monocytogenes* is a highly pathogenic organism therefore appropriate precautions must be taken while handling.

Methodology

Suspend 36 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to room temperature and aseptically add 1 vial of rehydrated contents of Listeria Selective Supplement II, (MS2063) or 2 vials of Listeria Selective Supplement II, (MS2063I) as desired. Mix well before dispensing.

Quality Control

Physical Appearance

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

Colour and Clarity of prepared medium

Fluorescent yellow coloured, clear solution without any precipitate.

Reaction

Reaction of 3.6% w/v aqueous solution is pH 7.3 ± 0.2 at 25°C.

pH Range

7.1 - 7.5

Cultural Response/Characteristics

Cultural characteristics observed after an incubation of 24-48 hours at 30°C on addition of Listeria Selective Supplement II, (MS2063).

Organisms (ATCC)	Inoculum (CFU)	Growth
<i>Candida albicans</i> (10231)	10^3 - 2×10^3	inhibited
<i>Escherichia coli</i> (25922)	10^2 - 10^3	inhibited
<i>Listeria monocytogenes</i> (19111)	10^2 - 10^3	luxuriant
<i>Listeria monocytogenes</i> (19112)	10^2 - 10^3	luxuriant
<i>Listeria monocytogenes</i> (19118)	10^2 - 10^3	luxuriant
<i>Staphylococcus aureus</i> (25923)	10^3 - 2×10^3	none-poor

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° in sealable plastic bags for 2-5 day.

Further Reading

1. Lovette J., Francis D.W. and Hunt J.M., 1987, J. Food Protection, 50:188.
2. Lee W.K. and McClain D., 1986, Appl. Environ. Microbiol., 52:1215.
3. McClain D. and Lee W.H., 1988, J. Assoc. off. Anal. Chem., 71:660.
4. Agello G., Hayes P. and Fuley J., 1986, Abstracts of the Annual Meeting, ASM, Washington, D.C.

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